Full wwPDB EM Validation Report ⓘ

Apr 3, 2023 – 08:00 PM EDT

PDB ID	:	7THT
EMDB ID	:	EMD-25904
Title	:	CryoEM structure of SARS-CoV-2 S protein in complex with Receptor Binding Domain antibody DH1042
Authors	:	Manne, K.; May, A.; Acharya, P.
Deposited on	:	2022-01-12
Resolution	:	3.42 Å(reported)
Based on initial models	:	7EAN, 6VYB

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references ⓘ) were used in the production of this report:

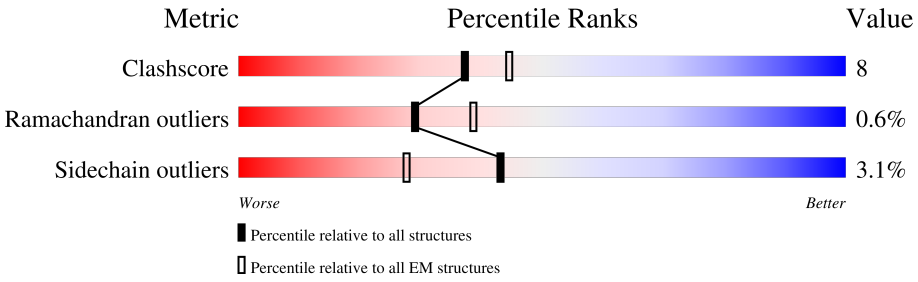
EMDB validation analysis	:	0.0.1.dev50
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.32.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.42 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	C	1121	81% 7% · 12%
1	S	1121	79% 8% ·· 12%
1	V	1121	77% 8% · 12%
2	H	122	· 97% ·
2	a	122	95% 5%
2	d	122	12% 92% 7% ·
3	L	106	· 98% ·
3	b	106	25% 99% ·

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Mol	Chain	Length	Quality of chain
3	c	106	97%
4	A	3	67% 33%
5	B	2	100%
5	D	2	100%
5	E	2	100%
5	F	2	100%
5	G	2	100%
5	I	2	100%
5	J	2	100%
5	K	2	100%
5	M	2	100%
5	N	2	100%
5	O	2	100%
5	W	2	100%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 28900 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Spike glycoprotein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	S	991	Total	C	N	O	S	0	0
			7620	4877	1268	1441	34		
1	V	986	Total	C	N	O	S	0	0
			7587	4856	1260	1437	34		
1	C	990	Total	C	N	O	S	0	0
			7606	4872	1270	1430	34		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S	607	GLU	GLN	conflict	UNP P0DTC2
S	986	PRO	LYS	conflict	UNP P0DTC2
S	987	PRO	VAL	conflict	UNP P0DTC2
V	607	GLU	GLN	conflict	UNP P0DTC2
V	986	PRO	LYS	conflict	UNP P0DTC2
V	987	PRO	VAL	conflict	UNP P0DTC2
C	607	GLU	GLN	conflict	UNP P0DTC2
C	986	PRO	LYS	conflict	UNP P0DTC2
C	987	PRO	VAL	conflict	UNP P0DTC2

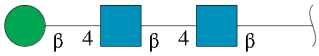
- Molecule 2 is a protein called DH1042 heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	122	Total	C	N	O	S	0	0
			946	597	159	184	6		
2	a	122	Total	C	N	O	S	0	0
			946	597	159	184	6		
2	d	122	Total	C	N	O	S	0	0
			946	597	159	184	6		

- Molecule 3 is a protein called DH1042 light chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	L	106	Total	C	N	O	S	0	0
			804	504	132	165	3		
3	c	106	Total	C	N	O	S	0	0
			804	504	132	165	3		
3	b	106	Total	C	N	O	S	0	0
			804	504	132	165	3		

- Molecule 4 is an oligosaccharide called beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				AltConf	Trace
4	A	3	Total	C	N	O	0	0
			39	22	2	15		

- Molecule 5 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	B	2	Total	C	N	O	0	0
			28	16	2	10		
5	D	2	Total	C	N	O	0	0
			28	16	2	10		
5	E	2	Total	C	N	O	0	0
			28	16	2	10		
5	F	2	Total	C	N	O	0	0
			28	16	2	10		
5	G	2	Total	C	N	O	0	0
			28	16	2	10		
5	W	2	Total	C	N	O	0	0
			28	16	2	10		
5	I	2	Total	C	N	O	0	0
			28	16	2	10		
5	J	2	Total	C	N	O	0	0
			28	16	2	10		

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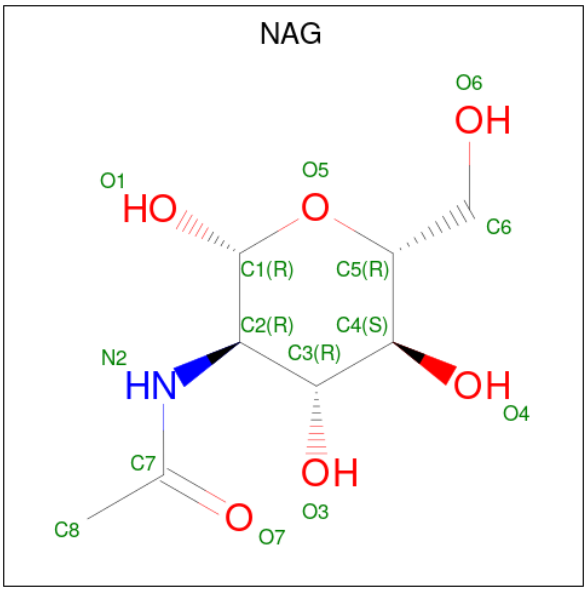
Mol	Chain	Residues	Atoms	AltConf	Trace
5	K	2	Total C N O 28 16 2 10	0	0
5	M	2	Total C N O 28 16 2 10	0	0
5	N	2	Total C N O 28 16 2 10	0	0
5	O	2	Total C N O 28 16 2 10	0	0

- Molecule 6 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms	AltConf
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0

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Mol	Chain	Residues	Atoms	AltConf
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	S	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	V	1	Total C N O 14 8 1 5	0
6	C	1	Total C N O 14 8 1 5	0
6	C	1	Total C N O 14 8 1 5	0
6	C	1	Total C N O 14 8 1 5	0
6	C	1	Total C N O 14 8 1 5	0
6	C	1	Total C N O 14 8 1 5	0
6	C	1	Total C N O 14 8 1 5	0

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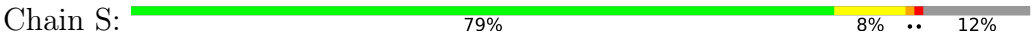
Mol	Chain	Residues	Atoms				AltConf
6	C	1	Total	C	N	O	0
			14	8	1	5	
6	C	1	Total	C	N	O	0
			14	8	1	5	
6	C	1	Total	C	N	O	0
			14	8	1	5	
6	C	1	Total	C	N	O	0
			14	8	1	5	
6	C	1	Total	C	N	O	0
			14	8	1	5	

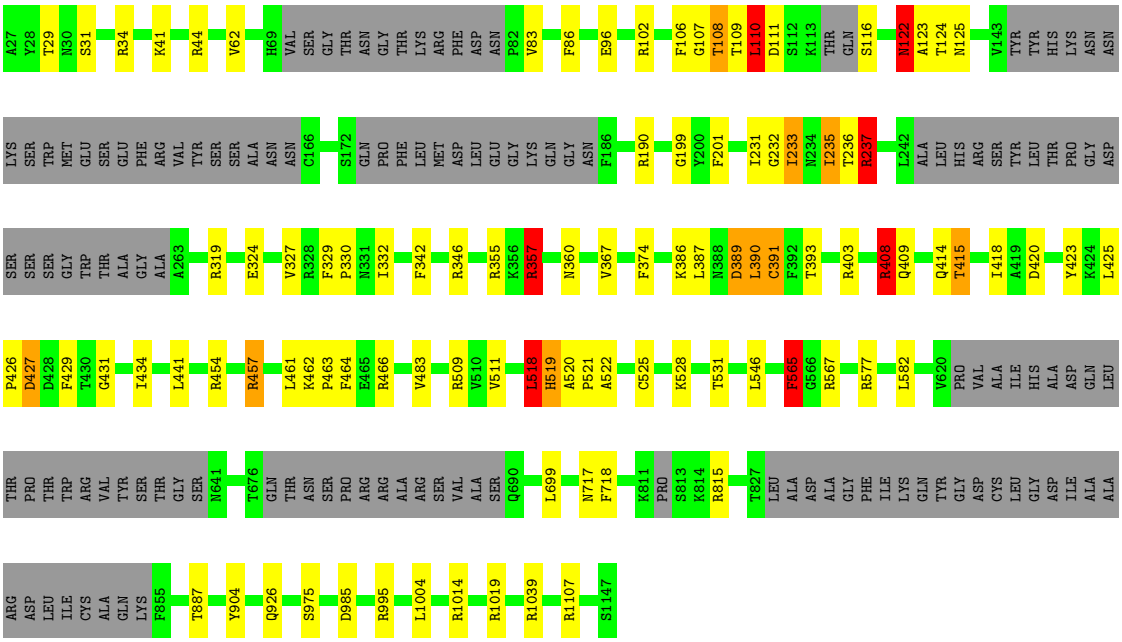
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Spike glycoprotein

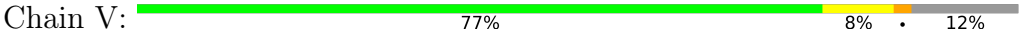
Chain S:

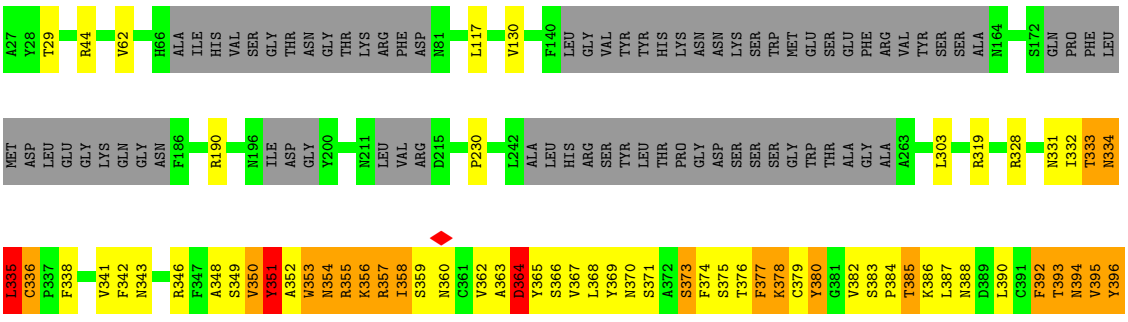


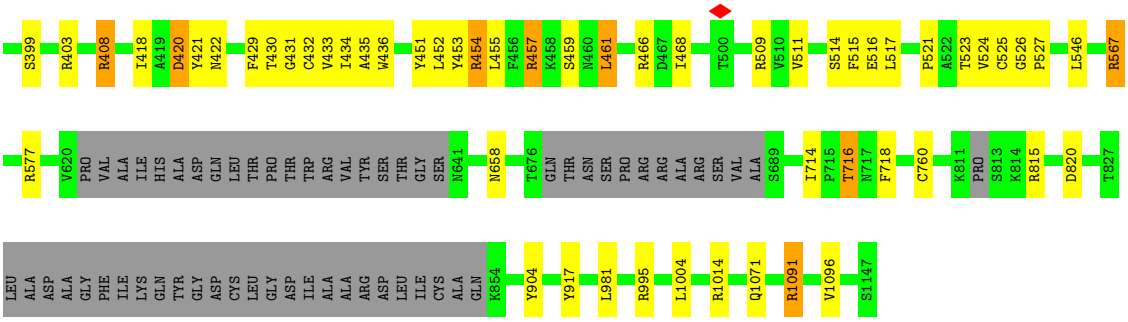


• Molecule 1: Spike glycoprotein

Chain V:

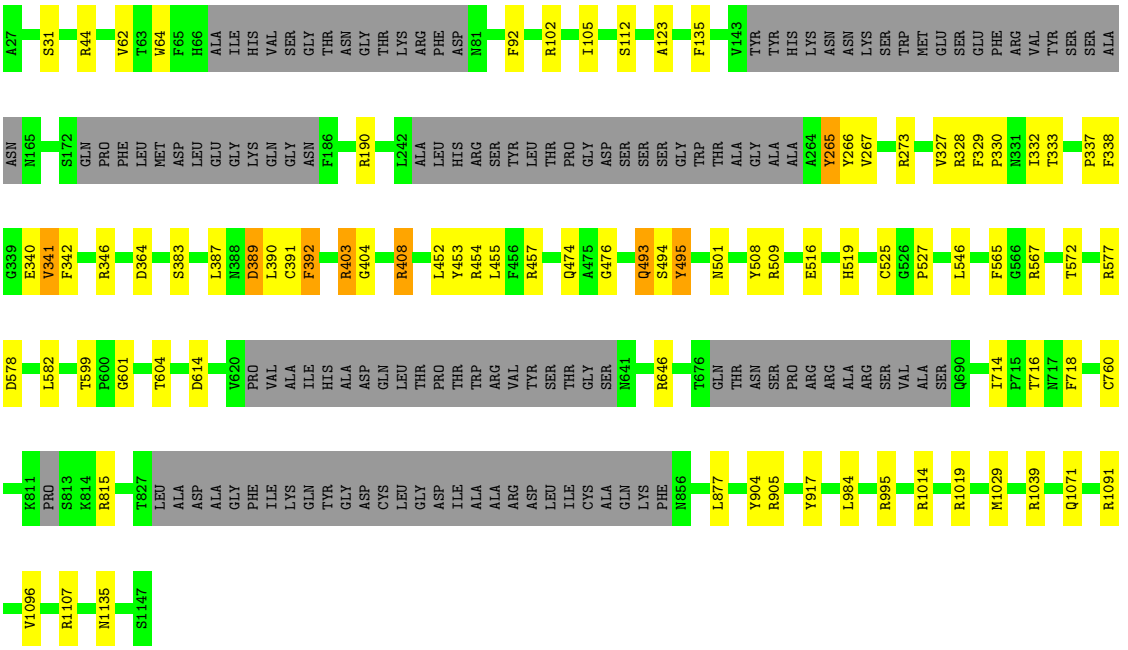






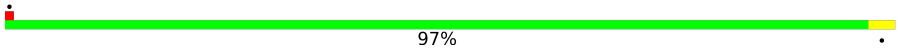
• Molecule 1: Spike glycoprotein

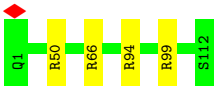
Chain C:



• Molecule 2: DH1042 heavy chain

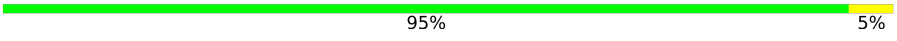
Chain H:





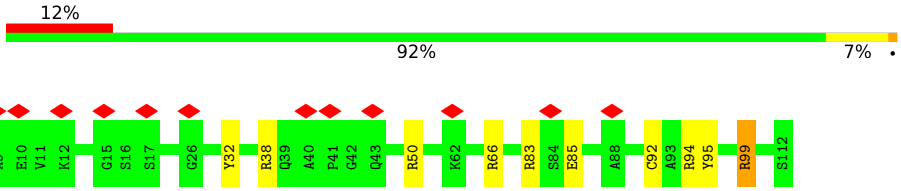
• Molecule 2: DH1042 heavy chain

Chain a:



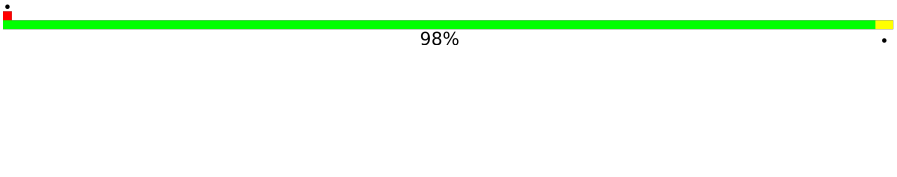
• Molecule 2: DH1042 heavy chain

Chain d:



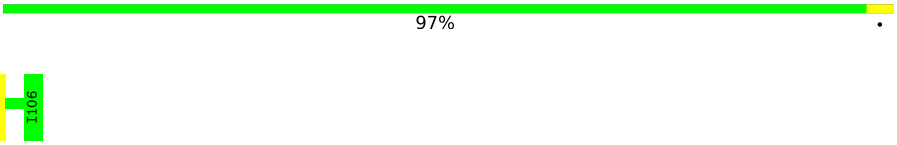
• Molecule 3: DH1042 light chain

Chain L:



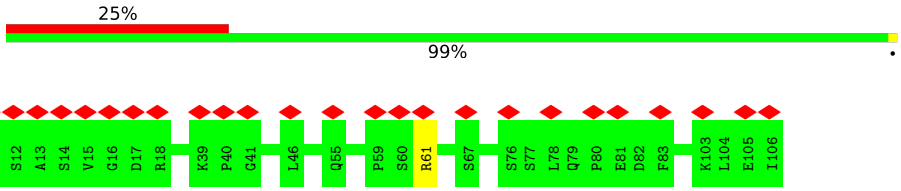
• Molecule 3: DH1042 light chain

Chain c:



• Molecule 3: DH1042 light chain

Chain b:

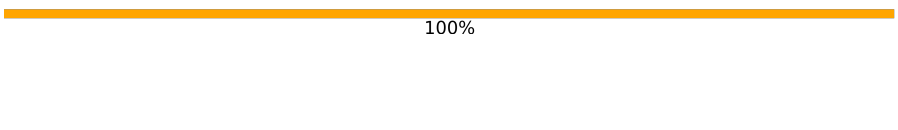


• Molecule 4: beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain A:

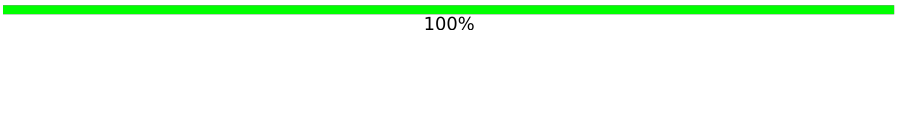
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain B:



• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain D:



• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E: 100%

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain F: 100%

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G: 100%

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain W: 100%

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I: 100%

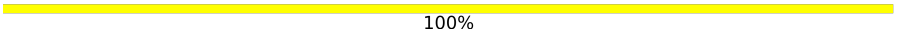
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J: 100%

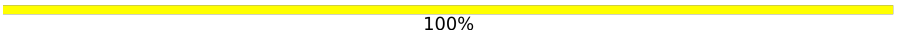
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K: 100%

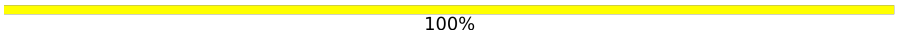
• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain M: 

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain N: 

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain O: 

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	175460	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	54.02	Depositor
Minimum defocus (nm)	750	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.997	Depositor
Minimum map value	-1.602	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.070	Depositor
Recommended contour level	0.1321	Depositor
Map size (Å)	338.56, 338.56, 338.56	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.058, 1.058, 1.058	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: NAG, BMA

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	C	0.65	0/7777	0.99	27/10596 (0.3%)
1	S	0.65	0/7790	1.00	33/10611 (0.3%)
1	V	0.65	0/7757	0.96	22/10565 (0.2%)
2	H	0.74	0/966	1.08	3/1307 (0.2%)
2	a	0.74	0/966	1.06	3/1307 (0.2%)
2	d	0.75	0/966	1.09	5/1307 (0.4%)
3	L	0.71	0/823	0.96	0/1118
3	b	0.70	0/823	0.98	1/1118 (0.1%)
3	c	0.70	0/823	0.97	1/1118 (0.1%)
All	All	0.67	0/28691	0.99	95/39047 (0.2%)

There are no bond length outliers.

All (95) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	S	190	ARG	NE-CZ-NH1	8.83	124.72	120.30
1	V	403	ARG	NE-CZ-NH1	8.72	124.66	120.30
1	C	403	ARG	NE-CZ-NH1	8.20	124.40	120.30
1	S	357	ARG	CG-CD-NE	-8.14	94.71	111.80
1	C	495	TYR	CB-CA-C	-8.10	94.19	110.40
1	S	457	ARG	NE-CZ-NH1	7.88	124.24	120.30
1	C	1019	ARG	NE-CZ-NH1	7.84	124.22	120.30
2	H	94	ARG	NE-CZ-NH1	7.74	124.17	120.30
1	C	577	ARG	NE-CZ-NH1	7.60	124.10	120.30
1	V	577	ARG	NE-CZ-NH1	7.57	124.08	120.30
2	a	94	ARG	NE-CZ-NH1	7.46	124.03	120.30
1	C	1014	ARG	NE-CZ-NH1	7.45	124.03	120.30
1	V	408	ARG	NE-CZ-NH1	7.39	123.99	120.30
1	C	904	TYR	CB-CG-CD2	-7.28	116.63	121.00
1	V	457	ARG	NE-CZ-NH1	7.21	123.91	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	S	237	ARG	CB-CA-C	-7.06	96.28	110.40
2	H	66	ARG	NE-CZ-NH1	7.01	123.81	120.30
1	C	995	ARG	NE-CZ-NH1	6.95	123.77	120.30
1	C	102	ARG	NE-CZ-NH1	6.92	123.76	120.30
1	S	1014	ARG	NE-CZ-NH1	6.91	123.76	120.30
1	S	904	TYR	CB-CG-CD2	-6.90	116.86	121.00
1	V	509	ARG	NE-CZ-NH1	6.88	123.74	120.30
1	C	457	ARG	NE-CZ-NH1	6.81	123.70	120.30
1	C	567	ARG	NE-CZ-NH1	6.79	123.69	120.30
2	d	50	ARG	NE-CZ-NH1	6.77	123.69	120.30
1	C	509	ARG	NE-CZ-NH1	6.75	123.68	120.30
1	C	905	ARG	NE-CZ-NH1	6.75	123.67	120.30
1	C	333	THR	CB-CA-C	-6.73	93.43	111.60
1	V	1014	ARG	NE-CZ-NH1	6.66	123.63	120.30
1	S	815	ARG	NE-CZ-NH1	6.53	123.56	120.30
1	V	334	ASN	CB-CA-C	6.50	123.40	110.40
2	a	66	ARG	NE-CZ-NH1	6.49	123.55	120.30
1	S	565	PHE	CB-CG-CD2	-6.47	116.27	120.80
1	S	403	ARG	NE-CZ-NH1	6.46	123.53	120.30
2	d	66	ARG	NE-CZ-NH1	6.46	123.53	120.30
1	V	904	TYR	CB-CG-CD2	-6.44	117.14	121.00
1	S	1019	ARG	NE-CZ-NH1	6.43	123.52	120.30
1	C	190	ARG	NE-CZ-NH1	6.24	123.42	120.30
1	S	408	ARG	NE-CZ-NH1	-6.22	117.19	120.30
1	C	44	ARG	NE-CZ-NH1	6.18	123.39	120.30
1	S	389	ASP	N-CA-CB	-6.15	99.53	110.60
1	V	815	ARG	NE-CZ-NH1	6.12	123.36	120.30
1	C	1039	ARG	NE-CZ-NH1	6.12	123.36	120.30
2	a	50	ARG	NE-CZ-NH1	6.06	123.33	120.30
1	S	390	LEU	CB-CA-C	-6.06	98.69	110.20
1	S	1107	ARG	NE-CZ-NH1	6.04	123.32	120.30
1	V	1091	ARG	NE-CZ-NH1	6.04	123.32	120.30
1	S	389	ASP	CB-CA-C	6.00	122.40	110.40
1	V	333	THR	CB-CA-C	-5.95	95.53	111.60
2	d	99	ARG	NE-CZ-NH1	5.87	123.23	120.30
1	S	391	CYS	CA-CB-SG	-5.84	103.50	114.00
1	V	328	ARG	NE-CZ-NH1	5.82	123.21	120.30
1	C	342	PHE	CB-CA-C	-5.82	98.76	110.40
1	C	408	ARG	NE-CZ-NH1	5.82	123.21	120.30
1	S	565	PHE	CB-CG-CD1	5.81	124.87	120.80
1	S	102	ARG	NE-CZ-NH1	5.78	123.19	120.30
1	C	815	ARG	NE-CZ-NH1	5.76	123.18	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	S	509	ARG	NE-CZ-NH1	5.76	123.18	120.30
1	S	995	ARG	NE-CZ-NH1	5.75	123.17	120.30
1	C	454	ARG	NE-CZ-NH1	5.72	123.16	120.30
1	C	273	ARG	NE-CZ-NH1	5.72	123.16	120.30
1	V	44	ARG	NE-CZ-NH1	5.71	123.16	120.30
1	C	1107	ARG	NE-CZ-NH1	5.71	123.16	120.30
1	V	995	ARG	NE-CZ-NH1	5.68	123.14	120.30
1	S	577	ARG	NE-CZ-NH1	5.67	123.13	120.30
1	V	454	ARG	NE-CZ-NH1	5.65	123.12	120.30
1	V	917	TYR	CB-CG-CD1	-5.62	117.63	121.00
1	S	567	ARG	NE-CZ-NH1	5.61	123.11	120.30
1	C	457	ARG	NE-CZ-NH2	-5.60	117.50	120.30
1	C	646	ARG	NE-CZ-NH1	5.57	123.09	120.30
1	S	44	ARG	NE-CZ-NH1	5.56	123.08	120.30
1	S	34	ARG	NE-CZ-NH1	5.55	123.08	120.30
3	b	61	ARG	NE-CZ-NH1	5.54	123.07	120.30
1	S	717	ASN	CB-CA-C	-5.52	99.37	110.40
3	c	24	ARG	NE-CZ-NH1	5.51	123.06	120.30
2	H	50	ARG	NE-CZ-NH1	5.51	123.06	120.30
1	V	567	ARG	NE-CZ-NH1	5.48	123.04	120.30
1	S	319	ARG	NE-CZ-NH1	5.44	123.02	120.30
1	V	319	ARG	NE-CZ-NH1	5.43	123.02	120.30
1	S	466	ARG	NE-CZ-NH1	5.40	123.00	120.30
1	S	454	ARG	NE-CZ-NH1	5.35	122.97	120.30
1	S	1039	ARG	NE-CZ-NH2	-5.31	117.64	120.30
1	C	1091	ARG	NE-CZ-NH1	5.27	122.94	120.30
1	S	403	ARG	NE-CZ-NH2	-5.24	117.68	120.30
1	C	917	TYR	CB-CG-CD1	-5.21	117.87	121.00
1	V	335	LEU	CA-C-N	5.16	128.54	117.20
1	S	815	ARG	NE-CZ-NH2	-5.14	117.73	120.30
1	V	335	LEU	N-CA-C	-5.12	97.16	111.00
1	S	357	ARG	CB-CG-CD	-5.09	98.35	111.60
1	V	190	ARG	NE-CZ-NH1	5.09	122.85	120.30
2	d	38	ARG	NE-CZ-NH1	5.09	122.85	120.30
1	C	328	ARG	NE-CZ-NH1	5.07	122.83	120.30
1	S	389	ASP	CB-CG-OD2	5.07	122.86	118.30
1	V	408	ARG	CD-NE-CZ	5.04	130.66	123.60
2	d	32	TYR	CB-CG-CD2	-5.04	117.98	121.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	7606	0	7342	73	0
1	S	7620	0	7364	105	0
1	V	7587	0	7307	247	0
2	H	946	0	926	0	0
2	a	946	0	926	0	0
2	d	946	0	924	0	0
3	L	804	0	781	1	0
3	b	804	0	781	0	0
3	c	804	0	781	0	0
4	A	39	0	34	5	0
5	B	28	0	25	3	0
5	D	28	0	25	0	0
5	E	28	0	25	0	0
5	F	28	0	25	0	0
5	G	28	0	25	0	0
5	I	28	0	25	0	0
5	J	28	0	25	0	0
5	K	28	0	25	0	0
5	M	28	0	25	0	0
5	N	28	0	25	0	0
5	O	28	0	25	0	0
5	W	28	0	25	0	0
6	C	154	0	143	0	0
6	S	140	0	130	4	0
6	V	168	0	156	4	0
All	All	28900	0	27895	420	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

All (420) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:380:TYR:CD2	1:V:429:PHE:HE2	1.16	1.64
1:V:353:TRP:CZ3	1:V:466:ARG:CD	1.81	1.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:353:TRP:CZ3	1:V:466:ARG:HD2	1.35	1.58
1:S:357:ARG:HH22	1:V:230:PRO:CB	0.98	1.56
1:S:83:VAL:CG1	1:S:237:ARG:HD3	1.25	1.56
1:V:336:CYS:H	1:V:363:ALA:CB	0.94	1.53
1:V:380:TYR:CD2	1:V:429:PHE:CE2	1.93	1.53
1:V:331:ASN:ND2	6:V:1204:NAG:C1	1.71	1.53
1:C:403:ARG:HB2	1:C:495:TYR:CE2	1.40	1.52
1:V:336:CYS:N	1:V:363:ALA:CB	1.78	1.45
1:C:403:ARG:CB	1:C:495:TYR:CE2	2.08	1.35
1:V:421:TYR:CD1	1:V:457:ARG:HB3	1.63	1.34
1:C:337:PRO:O	1:C:341:VAL:CG1	1.75	1.33
1:V:336:CYS:N	1:V:363:ALA:HB2	1.34	1.33
1:V:350:VAL:CG1	1:V:453:TYR:HA	1.59	1.30
1:S:357:ARG:NH2	1:V:230:PRO:HB2	0.99	1.30
1:C:403:ARG:CB	1:C:495:TYR:HE2	1.43	1.27
1:V:362:VAL:CG1	1:V:526:GLY:O	1.82	1.26
1:V:353:TRP:CZ3	1:V:466:ARG:NE	2.03	1.24
1:V:382:VAL:HG11	1:V:515:PHE:CE2	1.73	1.23
1:S:386:LYS:NZ	1:V:981:LEU:O	1.68	1.22
1:S:83:VAL:CG1	1:S:237:ARG:CD	2.20	1.20
1:V:422:ASN:O	1:V:461:LEU:HD11	1.39	1.20
1:V:342:PHE:CD1	1:V:511:VAL:HG21	1.77	1.19
1:V:353:TRP:CH2	1:V:466:ARG:CG	2.27	1.18
1:V:342:PHE:CE1	1:V:511:VAL:CB	2.28	1.17
1:V:342:PHE:CE1	1:V:511:VAL:HG21	1.81	1.15
1:V:362:VAL:HG11	1:V:526:GLY:O	1.42	1.14
1:V:350:VAL:HG11	1:V:453:TYR:HA	1.18	1.13
1:V:365:TYR:CD2	1:V:527:PRO:HG3	1.81	1.13
1:S:83:VAL:HG13	1:S:237:ARG:HD3	1.32	1.12
1:S:106:PHE:HB3	1:S:235:ILE:HG21	1.32	1.11
1:V:350:VAL:HG11	1:V:453:TYR:CA	1.80	1.11
1:C:337:PRO:O	1:C:341:VAL:HG12	0.94	1.11
1:V:374:PHE:CD1	1:V:434:ILE:HG21	1.86	1.10
1:V:362:VAL:HG22	1:V:525:CYS:HB2	1.34	1.10
1:C:329:PHE:CE2	1:C:391:CYS:SG	2.45	1.10
1:C:452:LEU:HD23	1:C:494:SER:HB2	1.32	1.10
1:V:336:CYS:N	1:V:363:ALA:HB1	1.57	1.10
1:V:342:PHE:CE1	1:V:511:VAL:CG2	2.33	1.10
1:V:395:VAL:HG11	1:V:515:PHE:CD1	1.85	1.10
1:V:353:TRP:CE3	1:V:466:ARG:NE	2.15	1.09
1:V:422:ASN:HD21	1:V:454:ARG:HB3	1.13	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:342:PHE:HE1	1:V:511:VAL:HB	1.07	1.09
1:S:83:VAL:HG11	1:S:237:ARG:CD	1.81	1.08
1:V:422:ASN:O	1:V:461:LEU:CD1	2.02	1.08
1:V:342:PHE:CE1	1:V:511:VAL:HB	1.88	1.07
1:V:342:PHE:CZ	1:V:511:VAL:HG11	1.90	1.07
1:V:353:TRP:CH2	1:V:466:ARG:HG3	1.87	1.07
1:V:374:PHE:HD1	1:V:434:ILE:CG2	1.67	1.07
1:V:371:SER:HB2	1:V:374:PHE:HD2	1.15	1.07
1:V:374:PHE:CD1	1:V:434:ILE:CG2	2.38	1.06
1:C:329:PHE:HE2	1:C:391:CYS:SG	1.78	1.05
1:V:380:TYR:O	1:V:430:THR:HA	1.55	1.05
1:S:357:ARG:HH22	1:V:230:PRO:HB3	1.13	1.04
1:V:382:VAL:HG11	1:V:515:PHE:CD2	1.91	1.04
1:C:403:ARG:HB3	1:C:495:TYR:HE2	1.22	1.04
1:S:116:SER:N	1:S:233:ILE:CD1	2.20	1.03
1:V:342:PHE:HE1	1:V:511:VAL:CB	1.65	1.03
1:S:409:GLN:OE1	1:S:418:ILE:HG22	1.60	1.01
1:V:353:TRP:CH2	1:V:466:ARG:CD	2.44	1.01
1:V:376:THR:O	1:V:434:ILE:HA	1.58	1.01
1:S:985:ASP:OD2	1:C:383:SER:OG	1.79	1.01
1:S:409:GLN:CD	1:S:418:ILE:HG22	1.80	1.01
1:V:371:SER:HB2	1:V:374:PHE:CD2	1.96	1.01
1:V:336:CYS:H	1:V:363:ALA:HB1	1.12	1.00
1:V:380:TYR:CE2	1:V:429:PHE:HE2	1.80	1.00
1:S:83:VAL:HG11	1:S:237:ARG:HD3	1.00	0.99
1:C:716:THR:HG22	1:C:1071:GLN:O	1.61	0.99
1:S:236:THR:HG21	5:B:1:NAG:H62	1.45	0.98
1:V:365:TYR:HD2	1:V:527:PRO:HG3	1.21	0.98
1:V:421:TYR:CD1	1:V:457:ARG:CB	2.47	0.97
1:V:380:TYR:HD2	1:V:429:PHE:CE2	1.75	0.97
1:C:338:PHE:HA	1:C:341:VAL:HG13	1.47	0.97
1:V:358:ILE:HD13	1:V:358:ILE:H	1.30	0.97
1:V:353:TRP:HH2	1:V:466:ARG:HB2	1.29	0.96
1:V:350:VAL:HG11	1:V:453:TYR:CB	1.96	0.96
1:V:353:TRP:CH2	1:V:466:ARG:HD2	1.98	0.96
1:S:357:ARG:NH2	1:V:230:PRO:CB	1.76	0.94
1:V:357:ARG:H	1:V:357:ARG:HE	1.15	0.94
1:V:422:ASN:ND2	1:V:454:ARG:HB3	1.82	0.94
1:S:106:PHE:HB3	1:S:235:ILE:CG2	1.96	0.94
1:S:332:ILE:HD11	1:S:360:ASN:OD1	1.67	0.94
1:V:353:TRP:CZ3	1:V:466:ARG:CG	2.47	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:409:GLN:OE1	1:S:418:ILE:CG2	2.16	0.93
1:C:452:LEU:CD2	1:C:494:SER:HB2	1.98	0.92
1:V:350:VAL:CG1	1:V:453:TYR:CA	2.44	0.92
1:V:380:TYR:CG	1:V:429:PHE:CE2	2.59	0.90
1:V:395:VAL:HG22	1:V:514:SER:O	1.48	0.89
1:S:342:PHE:CE1	1:S:511:VAL:HG21	2.07	0.88
1:V:388:ASN:O	1:V:526:GLY:HA3	1.74	0.88
1:V:350:VAL:HG13	1:V:453:TYR:HA	1.53	0.88
1:V:362:VAL:HG13	1:V:526:GLY:O	1.74	0.88
1:V:375:SER:N	1:V:435:ALA:O	2.07	0.88
1:S:415:THR:OG1	1:S:420:ASP:OD1	1.91	0.87
1:V:365:TYR:HA	1:V:527:PRO:CG	2.05	0.87
1:C:403:ARG:HB3	1:C:495:TYR:CE2	1.99	0.86
1:V:377:PHE:CD1	1:V:432:CYS:SG	2.70	0.85
1:V:342:PHE:CZ	1:V:511:VAL:CG1	2.60	0.85
1:V:353:TRP:CH2	1:V:466:ARG:CB	2.60	0.85
1:V:353:TRP:CH2	1:V:466:ARG:HB2	2.12	0.85
1:V:421:TYR:CD1	1:V:459:SER:O	2.30	0.84
1:V:353:TRP:HZ3	1:V:466:ARG:CD	1.41	0.83
1:V:380:TYR:OH	1:V:433:VAL:N	2.10	0.83
1:C:64:TRP:CD1	1:C:266:TYR:CE1	2.67	0.83
1:V:331:ASN:CG	6:V:1204:NAG:C1	2.47	0.83
1:V:380:TYR:CG	1:V:429:PHE:HE2	1.90	0.83
1:C:337:PRO:C	1:C:341:VAL:HG12	1.99	0.83
1:S:83:VAL:HG12	1:S:237:ARG:HD3	1.59	0.83
1:S:109:THR:O	1:S:111:ASP:N	2.09	0.83
1:V:421:TYR:CE1	1:V:457:ARG:HB3	2.13	0.82
1:V:353:TRP:HE3	1:V:466:ARG:HE	1.26	0.82
1:V:374:PHE:CE1	1:V:434:ILE:HG21	2.14	0.82
1:V:716:THR:HG22	1:V:1071:GLN:O	1.80	0.82
1:V:392:PHE:CE1	1:V:516:GLU:N	2.46	0.81
1:S:357:ARG:HH21	1:V:230:PRO:HB2	1.37	0.81
1:V:382:VAL:CG1	1:V:515:PHE:CE2	2.61	0.81
1:V:421:TYR:CE1	1:V:459:SER:O	2.34	0.81
1:V:356:LYS:HE3	1:V:396:TYR:HA	1.62	0.81
1:V:365:TYR:HA	1:V:527:PRO:HD3	1.62	0.81
1:S:116:SER:N	1:S:233:ILE:HD11	1.94	0.81
1:C:338:PHE:HA	1:C:341:VAL:CG1	2.11	0.80
1:V:350:VAL:HG12	1:V:452:LEU:O	1.81	0.79
1:V:336:CYS:H	1:V:363:ALA:HB2	0.63	0.79
1:V:365:TYR:HA	1:V:527:PRO:CD	2.12	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:409:GLN:CD	1:S:418:ILE:CG2	2.51	0.79
1:V:380:TYR:CE2	1:V:429:PHE:CE2	2.62	0.79
1:C:337:PRO:C	1:C:341:VAL:CG1	2.51	0.79
1:V:380:TYR:O	1:V:430:THR:CA	2.30	0.79
1:V:342:PHE:CE1	1:V:511:VAL:CG1	2.66	0.78
1:S:108:THR:HG23	1:S:236:THR:CG2	2.13	0.78
1:V:359:SER:O	1:V:523:THR:HB	1.83	0.78
1:S:386:LYS:O	1:S:389:ASP:HB2	1.84	0.78
1:V:354:ASN:OD1	1:V:399:SER:OG	2.01	0.78
1:V:377:PHE:CE1	1:V:432:CYS:SG	2.76	0.78
1:V:353:TRP:HZ3	1:V:466:ARG:HD2	0.74	0.77
1:S:408:ARG:H	1:S:408:ARG:HD3	1.46	0.77
1:V:350:VAL:HG21	1:V:422:ASN:OD1	1.83	0.77
1:V:342:PHE:CD1	1:V:511:VAL:CG2	2.59	0.77
1:V:395:VAL:CG2	1:V:514:SER:O	2.30	0.77
4:A:1:NAG:O7	4:A:1:NAG:O3	2.03	0.77
1:V:358:ILE:HG22	1:V:524:VAL:HG21	1.67	0.76
1:C:519:HIS:O	1:C:565:PHE:HE2	1.67	0.76
1:S:926:GLN:NE2	4:A:1:NAG:H82	1.99	0.76
1:V:358:ILE:HG13	1:V:393:THR:O	1.85	0.76
1:C:338:PHE:CA	1:C:341:VAL:HG13	2.15	0.76
1:C:403:ARG:HB2	1:C:495:TYR:CD2	2.17	0.76
1:V:342:PHE:CE1	1:V:511:VAL:HG11	2.21	0.75
1:V:421:TYR:CE1	1:V:459:SER:C	2.60	0.75
1:S:125:ASN:OD1	6:S:1208:NAG:O6	2.04	0.74
1:V:365:TYR:CD2	1:V:527:PRO:CG	2.66	0.74
1:V:380:TYR:CD2	1:V:431:GLY:C	2.62	0.74
1:S:386:LYS:O	1:S:389:ASP:OD2	2.05	0.73
1:V:331:ASN:ND2	6:V:1204:NAG:O5	2.23	0.72
1:V:394:ASN:O	1:V:516:GLU:HB3	1.89	0.72
1:S:108:THR:HG23	1:S:236:THR:HG23	1.69	0.72
1:V:365:TYR:CA	1:V:527:PRO:HD3	2.20	0.72
1:V:392:PHE:CZ	1:V:515:PHE:HB3	2.25	0.72
1:C:519:HIS:O	1:C:565:PHE:CE2	2.43	0.72
1:V:352:ALA:HB1	1:V:466:ARG:CZ	2.20	0.71
1:S:107:GLY:O	1:S:236:THR:N	2.19	0.71
1:V:395:VAL:HG11	1:V:515:PHE:HD1	1.52	0.71
1:V:358:ILE:HB	1:V:524:VAL:HG23	1.72	0.71
1:V:421:TYR:HE1	1:V:459:SER:C	1.94	0.71
1:V:392:PHE:CZ	1:V:516:GLU:N	2.58	0.71
1:C:452:LEU:HD23	1:C:494:SER:CB	2.16	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:355:ARG:NH1	1:V:355:ARG:HG3	2.06	0.71
1:S:393:THR:HG21	1:S:518:LEU:HD11	1.73	0.71
1:V:358:ILE:HD13	1:V:358:ILE:N	2.06	0.71
1:V:716:THR:CG2	1:V:1071:GLN:O	2.39	0.70
1:V:421:TYR:HB3	1:V:457:ARG:HD2	1.73	0.70
1:V:355:ARG:HG3	1:V:355:ARG:HH11	1.57	0.69
1:V:395:VAL:CG1	1:V:515:PHE:CD1	2.72	0.69
3:L:13:ALA:O	3:L:106:ILE:OXT	2.10	0.69
1:V:377:PHE:HD1	1:V:432:CYS:SG	2.16	0.69
1:S:985:ASP:CG	1:C:383:SER:OG	2.31	0.69
1:V:352:ALA:HB1	1:V:466:ARG:NH1	2.09	0.68
1:C:403:ARG:N	1:C:495:TYR:OH	2.19	0.68
1:V:357:ARG:H	1:V:357:ARG:NE	1.91	0.68
1:C:329:PHE:HB3	1:C:330:PRO:HD2	1.75	0.68
1:V:365:TYR:HA	1:V:527:PRO:HG3	1.75	0.68
1:V:353:TRP:CZ2	1:V:466:ARG:HG3	2.30	0.67
1:S:31:SER:HB3	1:S:62:VAL:HG11	1.76	0.66
1:V:382:VAL:CG1	1:V:515:PHE:CD2	2.76	0.66
1:V:387:LEU:C	1:V:387:LEU:HD23	2.16	0.66
1:V:365:TYR:N	1:V:527:PRO:HD3	2.11	0.66
1:S:374:PHE:CG	1:S:434:ILE:HD11	2.32	0.65
1:S:329:PHE:HB3	1:S:330:PRO:HD2	1.78	0.65
1:V:371:SER:CB	1:V:374:PHE:CD2	2.75	0.65
1:V:349:SER:OG	1:V:451:TYR:HA	1.96	0.65
1:V:380:TYR:O	1:V:431:GLY:N	2.29	0.64
1:V:364:ASP:CB	1:V:526:GLY:HA2	2.27	0.64
1:S:462:LYS:HB3	1:S:463:PRO:HD2	1.80	0.64
1:S:409:GLN:OE1	1:S:418:ILE:HG23	1.98	0.64
1:V:392:PHE:CZ	1:V:517:LEU:CD1	2.81	0.64
1:V:368:LEU:HA	1:V:374:PHE:CE2	2.33	0.63
1:V:355:ARG:HH11	1:V:355:ARG:CG	2.12	0.63
1:S:332:ILE:CD1	1:S:360:ASN:OD1	2.46	0.63
1:S:386:LYS:O	1:S:389:ASP:CB	2.46	0.62
1:V:380:TYR:CD2	1:V:429:PHE:CZ	2.81	0.62
1:V:368:LEU:HD22	1:V:374:PHE:CZ	2.34	0.62
1:C:332:ILE:C	1:C:332:ILE:HD12	2.18	0.62
1:C:338:PHE:CA	1:C:341:VAL:CG1	2.76	0.62
1:C:392:PHE:HB3	1:C:516:GLU:O	2.00	0.62
1:V:421:TYR:HD1	1:V:459:SER:O	1.82	0.61
1:V:348:ALA:HB3	1:V:353:TRP:HA	1.81	0.61
1:V:331:ASN:OD1	6:V:1204:NAG:C1	2.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:327:VAL:HG12	1:C:329:PHE:HD1	1.64	0.61
1:C:403:ARG:CB	1:C:495:TYR:CZ	2.80	0.61
1:S:109:THR:O	1:S:109:THR:HG22	2.01	0.61
1:V:365:TYR:H	1:V:527:PRO:HD3	1.65	0.61
1:S:116:SER:N	1:S:233:ILE:HD12	2.14	0.60
1:V:374:PHE:HD1	1:V:434:ILE:HG22	1.61	0.60
1:V:366:SER:OG	1:V:388:ASN:HB3	2.01	0.60
5:B:1:NAG:H3	5:B:2:NAG:H83	1.84	0.60
1:V:362:VAL:HG13	1:V:525:CYS:C	2.22	0.59
1:S:408:ARG:HD3	1:S:408:ARG:N	2.16	0.59
1:S:985:ASP:CG	1:C:383:SER:CB	2.71	0.59
1:S:427:ASP:OD1	1:S:427:ASP:N	2.35	0.59
1:C:327:VAL:CG1	1:C:329:PHE:CE1	2.85	0.59
1:S:357:ARG:NH2	1:V:230:PRO:CA	2.64	0.59
1:V:380:TYR:CE2	1:V:432:CYS:N	2.70	0.59
1:C:332:ILE:HD12	1:C:332:ILE:O	2.03	0.59
1:V:62:VAL:O	1:V:62:VAL:HG23	2.03	0.58
1:V:352:ALA:HB2	1:V:468:ILE:HG22	1.85	0.58
1:S:201:PHE:CE2	1:S:235:ILE:CD1	2.86	0.58
1:S:520:ALA:N	1:S:521:PRO:HD3	2.18	0.58
1:S:108:THR:HG23	1:S:236:THR:HG21	1.85	0.57
1:V:353:TRP:N	1:V:353:TRP:CD2	2.72	0.57
1:V:358:ILE:HB	1:V:523:THR:OG1	2.03	0.57
5:B:2:NAG:O7	5:B:2:NAG:H3	2.04	0.57
1:V:379:CYS:HB3	1:V:382:VAL:HG23	1.86	0.57
6:S:1208:NAG:O3	6:S:1208:NAG:H82	2.03	0.57
1:S:342:PHE:CE1	1:S:511:VAL:CG2	2.86	0.57
1:V:357:ARG:HE	1:V:357:ARG:N	1.95	0.57
1:V:364:ASP:HB2	1:V:526:GLY:HA2	1.87	0.57
1:C:453:TYR:CZ	1:C:493:GLN:HG2	2.40	0.57
1:S:233:ILE:HG23	1:S:235:ILE:HG12	1.87	0.57
1:V:375:SER:HB2	1:V:436:TRP:HA	1.87	0.57
1:S:386:LYS:O	1:S:389:ASP:CG	2.44	0.56
1:V:392:PHE:HE1	1:V:516:GLU:H	1.52	0.56
1:C:327:VAL:CG1	1:C:329:PHE:CD1	2.88	0.56
1:V:422:ASN:O	1:V:461:LEU:HD13	2.01	0.56
1:S:116:SER:N	1:S:233:ILE:HD13	2.17	0.56
1:S:237:ARG:NH1	1:S:237:ARG:HG3	2.20	0.56
1:V:382:VAL:HG11	1:V:515:PHE:HE2	1.60	0.56
1:S:423:TYR:CE2	1:S:425:LEU:HD21	2.41	0.55
1:V:420:ASP:O	1:V:461:LEU:HD23	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:201:PHE:CD2	1:S:235:ILE:HD11	2.40	0.55
1:V:336:CYS:CA	1:V:363:ALA:CB	2.81	0.55
1:C:327:VAL:HG12	1:C:329:PHE:CD1	2.41	0.55
1:V:369:TYR:HA	1:V:377:PHE:CE2	2.42	0.55
1:C:64:TRP:CD1	1:C:266:TYR:CD1	2.94	0.55
1:V:341:VAL:O	1:V:341:VAL:HG22	2.06	0.55
1:V:362:VAL:HG13	1:V:525:CYS:O	2.07	0.55
1:V:422:ASN:C	1:V:461:LEU:HD11	2.20	0.54
1:C:64:TRP:HD1	1:C:266:TYR:CD1	2.25	0.54
1:C:329:PHE:CD2	1:C:391:CYS:SG	2.99	0.54
1:V:392:PHE:CE2	1:V:517:LEU:HD11	2.42	0.54
1:V:373:SER:O	1:V:436:TRP:HB3	2.07	0.54
1:V:380:TYR:CG	1:V:429:PHE:CD2	2.94	0.54
1:S:86:PHE:HB3	1:S:236:THR:O	2.08	0.54
1:V:350:VAL:HG11	1:V:453:TYR:HB3	1.86	0.53
1:C:452:LEU:HA	1:C:494:SER:HA	1.90	0.53
1:V:355:ARG:HH21	1:V:396:TYR:HB2	1.74	0.53
1:V:362:VAL:CG1	1:V:526:GLY:C	2.72	0.53
1:S:122:ASN:O	1:S:124:THR:N	2.42	0.52
1:S:201:PHE:HD2	1:S:235:ILE:HD11	1.74	0.52
1:S:426:PRO:CG	1:S:464:PHE:CE2	2.92	0.52
1:V:378:LYS:O	1:V:432:CYS:HA	2.09	0.52
1:S:329:PHE:HB3	1:S:330:PRO:CD	2.40	0.52
1:S:926:GLN:HE21	4:A:1:NAG:H82	1.71	0.52
1:S:83:VAL:HG13	1:S:237:ARG:CD	2.16	0.52
1:S:391:CYS:SG	1:S:525:CYS:HA	2.49	0.52
1:V:377:PHE:HE1	1:V:432:CYS:SG	2.30	0.52
1:C:452:LEU:CD2	1:C:494:SER:CB	2.82	0.52
1:S:199:GLY:HA2	1:S:232:GLY:HA2	1.92	0.52
1:C:453:TYR:CE1	1:C:493:GLN:HG2	2.44	0.52
1:S:29:THR:O	1:S:62:VAL:HG22	2.10	0.51
1:V:353:TRP:O	1:V:466:ARG:NH2	2.41	0.51
1:S:391:CYS:HB3	1:S:522:ALA:HB1	1.91	0.51
1:V:353:TRP:C	1:V:466:ARG:HH21	2.14	0.51
1:V:380:TYR:CB	1:V:429:PHE:CD2	2.93	0.51
1:S:201:PHE:CD2	1:S:235:ILE:CD1	2.93	0.51
1:V:388:ASN:HB2	1:V:527:PRO:HD2	1.93	0.51
1:C:599:THR:HG22	1:C:601:GLY:H	1.74	0.51
1:V:392:PHE:CZ	1:V:517:LEU:HD12	2.44	0.51
1:V:395:VAL:CG1	1:V:515:PHE:HD1	2.16	0.51
1:C:403:ARG:N	1:C:495:TYR:CZ	2.78	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:420:ASP:O	1:V:461:LEU:CD2	2.59	0.51
1:S:107:GLY:N	1:S:235:ILE:HG22	2.26	0.50
1:S:718:PHE:CD1	1:S:718:PHE:C	2.85	0.50
1:V:355:ARG:NH2	1:V:396:TYR:HB2	2.27	0.50
1:V:718:PHE:C	1:V:718:PHE:CD1	2.85	0.50
1:C:327:VAL:HG13	1:C:329:PHE:CE1	2.47	0.50
1:S:426:PRO:HG3	1:S:464:PHE:CE2	2.46	0.50
1:V:380:TYR:HD2	1:V:431:GLY:CA	2.25	0.50
1:C:265:TYR:CD1	1:C:265:TYR:C	2.84	0.50
1:C:718:PHE:CD1	1:C:718:PHE:C	2.85	0.50
1:S:106:PHE:CB	1:S:235:ILE:CG2	2.83	0.49
1:V:332:ILE:HD11	1:V:527:PRO:HA	1.93	0.49
1:V:388:ASN:O	1:V:526:GLY:CA	2.55	0.49
1:S:41:LYS:HD3	1:C:519:HIS:CD2	2.47	0.49
1:C:327:VAL:CG1	1:C:329:PHE:HE1	2.26	0.49
1:S:107:GLY:N	1:S:235:ILE:CG2	2.76	0.49
1:S:519:HIS:O	1:S:565:PHE:CZ	2.66	0.49
1:V:353:TRP:CZ3	1:V:466:ARG:HG3	2.27	0.49
1:S:355:ARG:NH2	1:S:464:PHE:CD1	2.80	0.49
1:V:368:LEU:HD22	1:V:374:PHE:HZ	1.76	0.49
1:V:29:THR:O	1:V:62:VAL:HG22	2.12	0.49
1:V:380:TYR:CD2	1:V:431:GLY:CA	2.96	0.48
1:C:327:VAL:HG13	1:C:329:PHE:HE1	1.77	0.48
1:C:455:LEU:HD22	1:C:493:GLN:HB3	1.94	0.48
1:C:62:VAL:HG23	1:C:62:VAL:O	2.14	0.48
6:S:1207:NAG:O6	6:S:1207:NAG:O4	2.30	0.48
1:V:379:CYS:SG	1:V:384:PRO:HD3	2.54	0.48
1:V:377:PHE:HE1	1:V:432:CYS:HG	1.55	0.48
1:V:394:ASN:O	1:V:394:ASN:ND2	2.45	0.48
1:V:338:PHE:O	1:V:341:VAL:HG12	2.14	0.48
1:S:926:GLN:HE22	4:A:1:NAG:H82	1.78	0.48
1:V:422:ASN:HD21	1:V:454:ARG:CB	2.03	0.47
1:C:390:LEU:HD22	1:C:390:LEU:N	2.29	0.47
1:V:396:TYR:CD1	1:V:396:TYR:N	2.80	0.47
1:V:364:ASP:HB3	1:V:526:GLY:HA2	1.96	0.47
1:V:371:SER:CB	1:V:374:PHE:HD2	2.03	0.47
1:C:265:TYR:CG	1:C:265:TYR:O	2.67	0.47
1:C:364:ASP:HB2	1:C:527:PRO:HG3	1.97	0.47
1:S:409:GLN:CB	1:S:418:ILE:CG2	2.93	0.47
1:S:237:ARG:CG	1:S:237:ARG:HH11	2.28	0.47
1:V:358:ILE:HG22	1:V:524:VAL:CG2	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:378:LYS:HB2	1:V:378:LYS:HE2	1.44	0.47
1:V:353:TRP:N	1:V:466:ARG:HH21	2.12	0.47
1:V:383:SER:HB3	1:V:386:LYS:HG3	1.97	0.47
1:V:335:LEU:HD13	1:V:335:LEU:N	2.29	0.47
1:V:353:TRP:HB2	1:V:354:ASN:H	1.56	0.47
1:V:395:VAL:CB	1:V:514:SER:O	2.63	0.47
1:S:408:ARG:N	1:S:408:ARG:CD	2.73	0.47
1:V:421:TYR:CG	1:V:457:ARG:CB	2.97	0.47
1:C:329:PHE:HD2	1:C:525:CYS:HB3	1.80	0.47
1:V:380:TYR:CE2	1:V:431:GLY:C	2.88	0.46
1:C:105:ILE:HD12	1:C:135:PHE:CE1	2.50	0.46
1:V:335:LEU:HA	1:V:363:ALA:HA	1.97	0.46
6:S:1210:NAG:O7	6:S:1210:NAG:O3	2.21	0.46
1:V:352:ALA:CB	1:V:468:ILE:HG22	2.45	0.46
1:V:373:SER:O	1:V:436:TRP:CB	2.63	0.46
1:S:237:ARG:NH1	1:S:237:ARG:CG	2.77	0.46
1:V:350:VAL:CG2	1:V:422:ASN:HB3	2.45	0.46
1:S:233:ILE:CG2	1:S:235:ILE:HG12	2.44	0.46
1:V:350:VAL:CG2	1:V:422:ASN:OD1	2.58	0.46
1:S:110:LEU:HD21	1:S:237:ARG:HD2	1.97	0.46
1:V:332:ILE:CD1	1:V:527:PRO:HA	2.45	0.46
1:V:355:ARG:HD2	1:V:355:ARG:HA	1.62	0.46
1:V:353:TRP:N	1:V:466:ARG:NH2	2.63	0.46
1:S:29:THR:OG1	1:S:62:VAL:HG23	2.16	0.46
1:S:31:SER:HB3	1:S:62:VAL:CG1	2.46	0.46
1:V:421:TYR:HD1	1:V:457:ARG:HB3	1.60	0.46
1:V:387:LEU:C	1:V:387:LEU:CD2	2.85	0.46
1:S:41:LYS:HD3	1:C:519:HIS:NE2	2.32	0.45
1:V:335:LEU:N	1:V:335:LEU:CD1	2.79	0.45
1:V:392:PHE:CE2	1:V:515:PHE:HB3	2.51	0.45
1:S:342:PHE:CZ	1:S:511:VAL:CG2	3.00	0.45
1:V:421:TYR:C	1:V:461:LEU:HD22	2.37	0.45
1:V:353:TRP:CE3	1:V:353:TRP:N	2.76	0.45
1:V:358:ILE:N	1:V:358:ILE:CD1	2.73	0.45
1:S:332:ILE:HD13	1:S:360:ASN:C	2.37	0.45
1:S:374:PHE:CD1	1:S:434:ILE:HD11	2.52	0.45
1:C:265:TYR:CD1	1:C:265:TYR:O	2.70	0.45
1:C:714:ILE:HD12	1:C:1096:VAL:HG11	1.99	0.45
1:S:718:PHE:CD1	1:S:718:PHE:O	2.70	0.45
1:V:375:SER:CB	1:V:435:ALA:O	2.65	0.45
1:V:395:VAL:HG12	1:V:395:VAL:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:107:GLY:O	1:S:235:ILE:HA	2.16	0.44
1:V:422:ASN:C	1:V:461:LEU:CD1	2.80	0.44
1:V:714:ILE:HD12	1:V:1096:VAL:HG11	1.99	0.44
1:V:375:SER:CA	1:V:435:ALA:O	2.66	0.44
1:V:369:TYR:HA	1:V:377:PHE:HE2	1.80	0.44
1:V:385:THR:H	1:V:385:THR:HG1	1.50	0.44
1:S:83:VAL:HG12	1:S:237:ARG:CD	2.30	0.44
1:V:393:THR:CG2	1:V:521:PRO:O	2.61	0.44
1:V:421:TYR:HD1	1:V:457:ARG:HD3	1.83	0.44
1:S:393:THR:CG2	1:S:518:LEU:HD11	2.45	0.44
1:V:357:ARG:NE	1:V:357:ARG:N	2.60	0.43
1:V:422:ASN:N	1:V:461:LEU:HD22	2.32	0.43
1:S:519:HIS:O	1:S:565:PHE:HZ	2.01	0.43
1:C:387:LEU:HA	1:C:390:LEU:HD23	1.98	0.43
1:S:926:GLN:HE21	4:A:1:NAG:C8	2.31	0.43
1:C:877:LEU:HD13	1:C:1029:MET:SD	2.58	0.43
1:S:327:VAL:CG1	1:S:329:PHE:CE2	3.02	0.43
1:V:368:LEU:N	1:V:368:LEU:HD23	2.34	0.43
1:V:380:TYR:HB2	1:V:429:PHE:CD2	2.54	0.43
1:V:394:ASN:ND2	1:V:516:GLU:O	2.52	0.43
1:S:408:ARG:HH11	1:S:408:ARG:HD2	1.65	0.43
1:C:329:PHE:CD2	1:C:525:CYS:HB3	2.54	0.43
1:C:390:LEU:N	1:C:390:LEU:CD2	2.82	0.43
1:S:106:PHE:CB	1:S:235:ILE:HG21	2.24	0.42
1:S:332:ILE:HD13	1:S:360:ASN:HA	2.00	0.42
1:V:360:ASN:HA	1:V:523:THR:HB	2.01	0.42
1:V:352:ALA:HB2	1:V:468:ILE:CG2	2.50	0.42
1:V:364:ASP:CB	1:V:526:GLY:CA	2.95	0.42
1:V:364:ASP:HB2	1:V:526:GLY:CA	2.48	0.42
1:C:389:ASP:OD1	1:C:389:ASP:N	2.51	0.42
1:V:359:SER:O	1:V:523:THR:CB	2.61	0.42
1:V:418:ILE:O	1:V:422:ASN:HB2	2.19	0.42
1:C:404:GLY:HA3	1:C:508:TYR:CE1	2.55	0.42
1:V:395:VAL:CA	1:V:514:SER:O	2.68	0.41
1:V:350:VAL:CG2	1:V:422:ASN:CG	2.88	0.41
1:C:31:SER:HB3	1:C:62:VAL:HG13	2.01	0.41
1:V:382:VAL:CG1	1:V:515:PHE:HE2	2.22	0.41
1:S:429:PHE:CZ	1:S:431:GLY:HA3	2.55	0.41
1:V:363:ALA:N	1:V:525:CYS:O	2.53	0.41
1:C:92:PHE:CE2	1:C:265:TYR:CE1	3.09	0.41
1:V:392:PHE:CZ	1:V:517:LEU:HD11	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:329:PHE:HD2	1:C:525:CYS:SG	2.44	0.41
1:C:493:GLN:O	1:C:493:GLN:CG	2.68	0.41
1:C:329:PHE:CD2	1:C:525:CYS:SG	3.14	0.41
1:S:699:LEU:H	1:S:699:LEU:HD12	1.86	0.40
1:S:387:LEU:C	1:S:389:ASP:H	2.24	0.40
1:V:349:SER:HB2	1:V:351:TYR:HE1	1.86	0.40
1:C:341:VAL:O	1:C:341:VAL:CG2	2.68	0.40
1:V:395:VAL:CG1	1:V:395:VAL:O	2.69	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	C	972/1121 (87%)	904 (93%)	62 (6%)	6 (1%)	25 61
1	S	971/1121 (87%)	899 (93%)	65 (7%)	7 (1%)	22 58
1	V	964/1121 (86%)	895 (93%)	64 (7%)	5 (0%)	29 65
2	H	120/122 (98%)	110 (92%)	10 (8%)	0	100 100
2	a	120/122 (98%)	112 (93%)	8 (7%)	0	100 100
2	d	120/122 (98%)	107 (89%)	12 (10%)	1 (1%)	19 56
3	L	104/106 (98%)	97 (93%)	7 (7%)	0	100 100
3	b	104/106 (98%)	98 (94%)	6 (6%)	0	100 100
3	c	104/106 (98%)	98 (94%)	5 (5%)	1 (1%)	15 51
All	All	3579/4047 (88%)	3320 (93%)	239 (7%)	20 (1%)	29 61

All (20) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	S	110	LEU
1	S	122	ASN
1	S	518	LEU
1	S	528	LYS
1	V	364	ASP
1	C	112	SER
1	S	123	ALA
1	V	350	VAL
1	V	420	ASP
1	C	604	THR
2	d	83	ARG
1	S	582	LEU
1	V	351	TYR
1	V	1091	ARG
3	c	60	SER
1	C	582	LEU
1	C	123	ALA
1	C	614	ASP
1	C	476	GLY
1	S	231	ILE

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	C	827/972 (85%)	810 (98%)	17 (2%)	53 79
1	S	833/972 (86%)	805 (97%)	28 (3%)	37 68
1	V	830/972 (85%)	790 (95%)	40 (5%)	25 59
2	H	101/101 (100%)	100 (99%)	1 (1%)	76 88
2	a	101/101 (100%)	98 (97%)	3 (3%)	41 71
2	d	101/101 (100%)	96 (95%)	5 (5%)	24 57
3	L	92/92 (100%)	92 (100%)	0	100 100
3	b	92/92 (100%)	92 (100%)	0	100 100
3	c	92/92 (100%)	91 (99%)	1 (1%)	73 87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	3069/3495 (88%)	2974 (97%)	95 (3%)	43 70

All (95) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	S	96	GLU
1	S	108	THR
1	S	110	LEU
1	S	122	ASN
1	S	233	ILE
1	S	235	ILE
1	S	237	ARG
1	S	324	GLU
1	S	346	ARG
1	S	357	ARG
1	S	367	VAL
1	S	390	LEU
1	S	408	ARG
1	S	414	GLN
1	S	415	THR
1	S	427	ASP
1	S	441	LEU
1	S	457	ARG
1	S	461	LEU
1	S	483	VAL
1	S	518	LEU
1	S	519	HIS
1	S	531	THR
1	S	546	LEU
1	S	565	PHE
1	S	887	THR
1	S	975	SER
1	S	1004	LEU
1	V	117	LEU
1	V	130	VAL
1	V	303	LEU
1	V	333	THR
1	V	334	ASN
1	V	335	LEU
1	V	336	CYS
1	V	343	ASN
1	V	346	ARG

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Mol	Chain	Res	Type
1	V	351	TYR
1	V	353	TRP
1	V	354	ASN
1	V	355	ARG
1	V	356	LYS
1	V	357	ARG
1	V	358	ILE
1	V	364	ASP
1	V	367	VAL
1	V	370	ASN
1	V	373	SER
1	V	377	PHE
1	V	378	LYS
1	V	380	TYR
1	V	385	THR
1	V	390	LEU
1	V	392	PHE
1	V	393	THR
1	V	394	ASN
1	V	395	VAL
1	V	396	TYR
1	V	408	ARG
1	V	455	LEU
1	V	461	LEU
1	V	546	LEU
1	V	567	ARG
1	V	658	ASN
1	V	716	THR
1	V	760	CYS
1	V	820	ASP
1	V	1004	LEU
1	C	265	TYR
1	C	267	VAL
1	C	340	GLU
1	C	341	VAL
1	C	346	ARG
1	C	389	ASP
1	C	392	PHE
1	C	408	ARG
1	C	474	GLN
1	C	493	GLN
1	C	501	ASN

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Mol	Chain	Res	Type
1	C	546	LEU
1	C	572	THR
1	C	578	ASP
1	C	760	CYS
1	C	984	LEU
1	C	1135	ASN
2	H	99	ARG
2	a	32	TYR
2	a	67	VAL
2	a	99	ARG
3	c	33	LEU
2	d	85	GLU
2	d	92	CYS
2	d	94	ARG
2	d	95	TYR
2	d	99	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	S	926	GLN
1	V	370	ASN
1	V	422	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

27 monosaccharides are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	NAG	A	1	4,1	14,14,15	2.52	5 (35%)	17,19,21	2.54	5 (29%)
4	NAG	A	2	4	14,14,15	0.72	0	17,19,21	2.19	5 (29%)
4	BMA	A	3	4	11,11,12	0.44	0	15,15,17	2.21	6 (40%)
5	NAG	B	1	5,1	14,14,15	0.53	0	17,19,21	2.32	6 (35%)
5	NAG	B	2	5	14,14,15	0.44	0	17,19,21	1.21	2 (11%)
5	NAG	D	1	5,1	14,14,15	0.28	0	17,19,21	0.68	0
5	NAG	D	2	5	14,14,15	0.28	0	17,19,21	0.72	0
5	NAG	E	1	5,1	14,14,15	0.27	0	17,19,21	0.74	0
5	NAG	E	2	5	14,14,15	0.27	0	17,19,21	0.66	0
5	NAG	F	1	5,1	14,14,15	1.20	2 (14%)	17,19,21	0.68	0
5	NAG	F	2	5	14,14,15	1.21	1 (7%)	17,19,21	0.85	1 (5%)
5	NAG	G	1	5,1	14,14,15	1.22	1 (7%)	17,19,21	0.94	1 (5%)
5	NAG	G	2	5	14,14,15	1.19	1 (7%)	17,19,21	0.84	1 (5%)
5	NAG	I	1	5,1	14,14,15	1.16	1 (7%)	17,19,21	0.67	0
5	NAG	I	2	5	14,14,15	1.23	2 (14%)	17,19,21	0.75	0
5	NAG	J	1	5,1	14,14,15	1.27	3 (21%)	17,19,21	1.01	1 (5%)
5	NAG	J	2	5	14,14,15	1.22	2 (14%)	17,19,21	0.79	0
5	NAG	K	1	5,1	14,14,15	1.20	2 (14%)	17,19,21	0.70	0
5	NAG	K	2	5	14,14,15	1.19	1 (7%)	17,19,21	0.82	1 (5%)
5	NAG	M	1	5,1	14,14,15	1.19	2 (14%)	17,19,21	0.75	0
5	NAG	M	2	5	14,14,15	1.23	1 (7%)	17,19,21	0.99	1 (5%)
5	NAG	N	1	5,1	14,14,15	1.25	2 (14%)	17,19,21	0.85	0
5	NAG	N	2	5	14,14,15	1.20	1 (7%)	17,19,21	0.77	0
5	NAG	O	1	5,1	14,14,15	1.22	2 (14%)	17,19,21	0.68	0
5	NAG	O	2	5	14,14,15	1.26	2 (14%)	17,19,21	0.77	1 (5%)
5	NAG	W	1	5,1	14,14,15	1.18	2 (14%)	17,19,21	0.78	0
5	NAG	W	2	5	14,14,15	1.26	2 (14%)	17,19,21	1.03	1 (5%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	A	1	4,1	-	3/6/23/26	0/1/1/1
4	NAG	A	2	4	-	3/6/23/26	0/1/1/1
4	BMA	A	3	4	-	0/2/19/22	0/1/1/1
5	NAG	B	1	5,1	-	5/6/23/26	0/1/1/1
5	NAG	B	2	5	-	3/6/23/26	0/1/1/1
5	NAG	D	1	5,1	-	2/6/23/26	0/1/1/1
5	NAG	D	2	5	-	1/6/23/26	0/1/1/1
5	NAG	E	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	E	2	5	-	0/6/23/26	0/1/1/1
5	NAG	F	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	F	2	5	-	0/6/23/26	0/1/1/1
5	NAG	G	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	G	2	5	-	0/6/23/26	0/1/1/1
5	NAG	I	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	I	2	5	-	0/6/23/26	0/1/1/1
5	NAG	J	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	J	2	5	-	0/6/23/26	0/1/1/1
5	NAG	K	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	K	2	5	-	0/6/23/26	0/1/1/1
5	NAG	M	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	M	2	5	-	0/6/23/26	0/1/1/1
5	NAG	N	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	N	2	5	-	0/6/23/26	0/1/1/1
5	NAG	O	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	O	2	5	-	1/6/23/26	0/1/1/1
5	NAG	W	1	5,1	-	0/6/23/26	0/1/1/1
5	NAG	W	2	5	-	2/6/23/26	0/1/1/1

All (35) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	1	NAG	O5-C1	-5.60	1.34	1.43
4	A	1	NAG	C1-C2	-4.23	1.46	1.52
4	A	1	NAG	O5-C5	-3.59	1.36	1.43
4	A	1	NAG	C2-N2	-3.06	1.41	1.46
5	J	2	NAG	O5-C5	2.73	1.49	1.43
5	I	2	NAG	O5-C5	2.71	1.48	1.43
5	W	2	NAG	O5-C5	2.70	1.48	1.43
5	N	2	NAG	O5-C5	2.68	1.48	1.43
5	F	2	NAG	O5-C5	2.65	1.48	1.43
5	J	1	NAG	O5-C5	2.64	1.48	1.43
5	M	2	NAG	O5-C5	2.63	1.48	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	G	2	NAG	O5-C5	2.58	1.48	1.43
5	N	1	NAG	O5-C5	2.52	1.48	1.43
5	K	2	NAG	O5-C5	2.51	1.48	1.43
5	O	2	NAG	O5-C5	2.39	1.48	1.43
5	G	1	NAG	O5-C5	2.38	1.48	1.43
5	O	2	NAG	O5-C1	2.29	1.47	1.43
5	W	1	NAG	O5-C5	2.22	1.47	1.43
5	M	1	NAG	O4-C4	2.21	1.48	1.43
5	O	1	NAG	O5-C5	2.21	1.47	1.43
5	K	1	NAG	O5-C5	2.20	1.47	1.43
5	M	1	NAG	O5-C5	2.15	1.47	1.43
4	A	1	NAG	C3-C2	-2.13	1.48	1.52
5	O	1	NAG	O4-C4	2.11	1.48	1.43
5	I	1	NAG	O5-C5	2.11	1.47	1.43
5	F	1	NAG	O5-C5	2.11	1.47	1.43
5	I	2	NAG	O5-C1	2.09	1.47	1.43
5	F	1	NAG	O4-C4	2.07	1.47	1.43
5	J	1	NAG	O5-C1	2.06	1.47	1.43
5	K	1	NAG	O4-C4	2.05	1.47	1.43
5	W	1	NAG	O4-C4	2.03	1.47	1.43
5	W	2	NAG	O5-C1	2.01	1.46	1.43
5	J	2	NAG	O5-C1	2.01	1.46	1.43
5	N	1	NAG	O4-C4	2.01	1.47	1.43
5	J	1	NAG	O4-C4	2.01	1.47	1.43

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1	NAG	O4-C4-C3	6.47	125.32	110.35
4	A	1	NAG	O5-C5-C6	-5.43	98.69	107.20
4	A	3	BMA	O5-C1-C2	-5.18	102.77	110.77
4	A	2	NAG	O3-C3-C4	-5.03	98.73	110.35
5	B	1	NAG	C1-C2-N2	-4.99	101.97	110.49
5	B	1	NAG	C1-O5-C5	4.32	118.05	112.19
5	B	1	NAG	O4-C4-C5	4.23	119.81	109.30
4	A	2	NAG	O3-C3-C2	-4.21	100.75	109.47
4	A	2	NAG	C2-N2-C7	3.77	128.27	122.90
4	A	1	NAG	C1-C2-N2	-3.55	104.42	110.49
5	B	1	NAG	O3-C3-C4	-3.30	102.72	110.35
4	A	3	BMA	C1-O5-C5	3.28	116.64	112.19
4	A	3	BMA	O2-C2-C3	-3.12	103.90	110.14
5	B	1	NAG	O5-C5-C6	3.09	112.04	107.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1	NAG	C4-C3-C2	-2.95	106.70	111.02
5	M	2	NAG	C1-O5-C5	2.72	115.88	112.19
5	G	2	NAG	C1-O5-C5	2.55	115.65	112.19
4	A	3	BMA	C2-C3-C4	-2.50	106.56	110.89
5	B	2	NAG	O5-C1-C2	-2.49	107.36	111.29
4	A	2	NAG	C1-O5-C5	2.48	115.55	112.19
4	A	1	NAG	O5-C5-C4	-2.46	104.85	110.83
5	W	2	NAG	C1-O5-C5	2.41	115.46	112.19
5	B	2	NAG	C1-O5-C5	2.37	115.41	112.19
5	O	2	NAG	C1-O5-C5	2.31	115.33	112.19
5	F	2	NAG	C1-O5-C5	2.29	115.30	112.19
4	A	2	NAG	C6-C5-C4	-2.18	107.89	113.00
5	B	1	NAG	O5-C1-C2	-2.18	107.85	111.29
5	J	1	NAG	C1-O5-C5	2.16	115.12	112.19
5	K	2	NAG	C1-O5-C5	2.16	115.12	112.19
5	G	1	NAG	C3-C4-C5	2.15	114.08	110.24
4	A	3	BMA	C1-C2-C3	2.13	112.28	109.67
4	A	3	BMA	O5-C5-C6	2.04	110.41	107.20

There are no chirality outliers.

All (20) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	2	NAG	C8-C7-N2-C2
4	A	2	NAG	O7-C7-N2-C2
5	B	1	NAG	C4-C5-C6-O6
5	B	1	NAG	O5-C5-C6-O6
5	B	1	NAG	C1-C2-N2-C7
4	A	1	NAG	C8-C7-N2-C2
5	B	1	NAG	C8-C7-N2-C2
5	D	2	NAG	C1-C2-N2-C7
4	A	1	NAG	O7-C7-N2-C2
5	B	1	NAG	O7-C7-N2-C2
5	D	1	NAG	C1-C2-N2-C7
5	O	2	NAG	O5-C5-C6-O6
4	A	1	NAG	C3-C2-N2-C7
5	B	2	NAG	C3-C2-N2-C7
4	A	2	NAG	C3-C2-N2-C7
5	B	2	NAG	C8-C7-N2-C2
5	B	2	NAG	O7-C7-N2-C2
5	W	2	NAG	C1-C2-N2-C7
5	D	1	NAG	C8-C7-N2-C2

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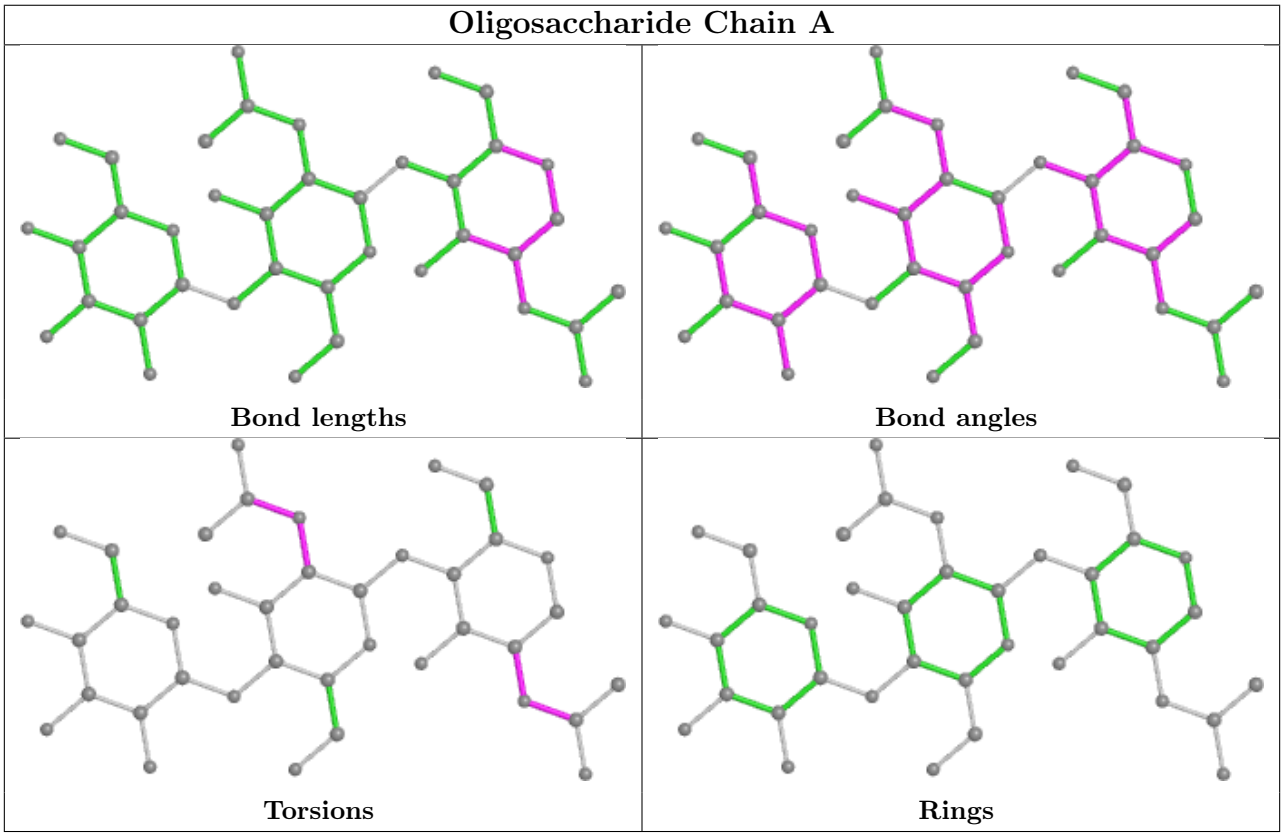
Mol	Chain	Res	Type	Atoms
5	W	2	NAG	C3-C2-N2-C7

There are no ring outliers.

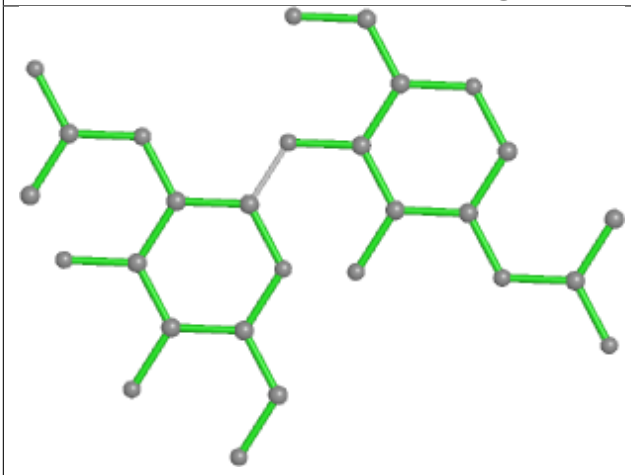
3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1	NAG	5	0
5	B	1	NAG	2	0
5	B	2	NAG	2	0

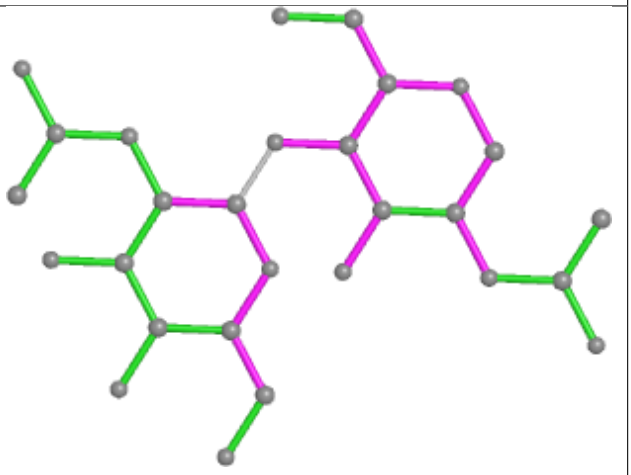
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.



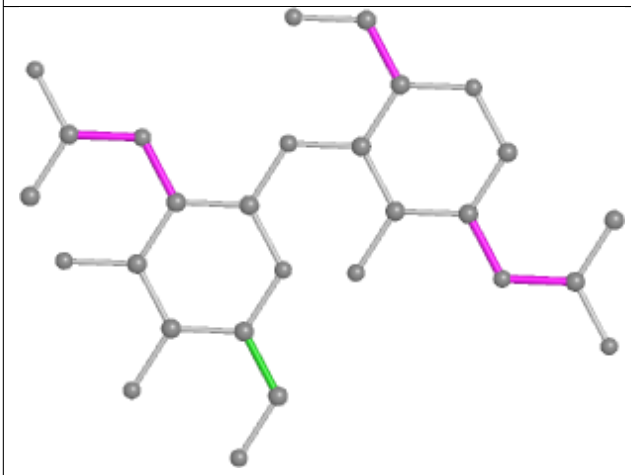
Oligosaccharide Chain B



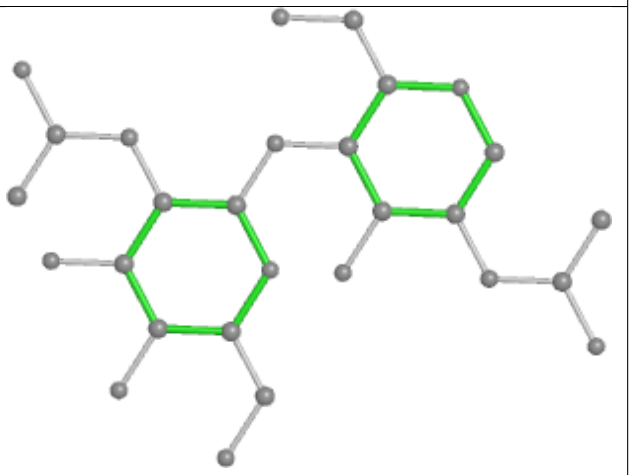
Bond lengths



Bond angles

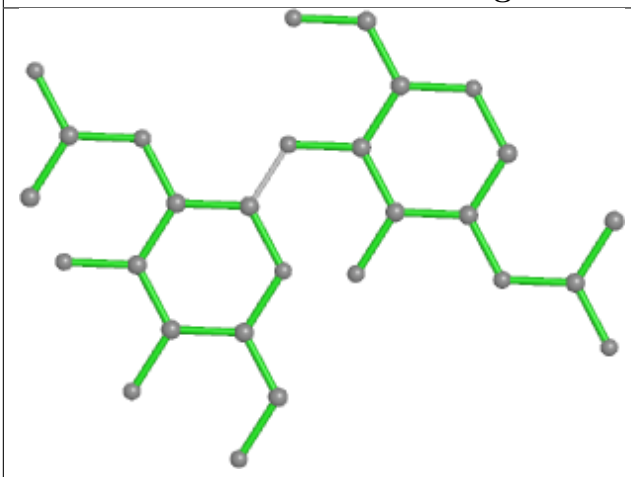


Torsions

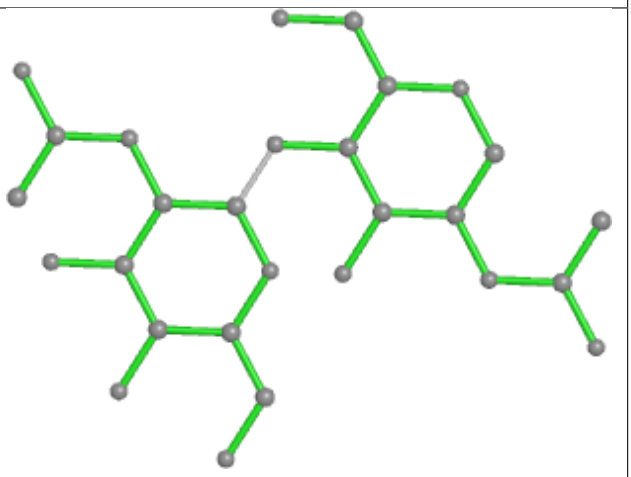


Rings

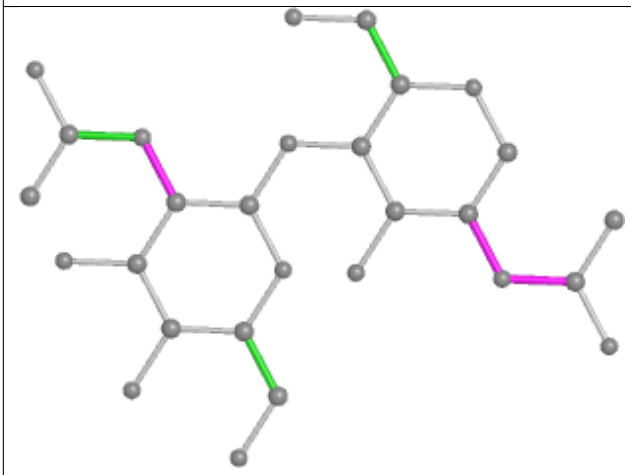
Oligosaccharide Chain D



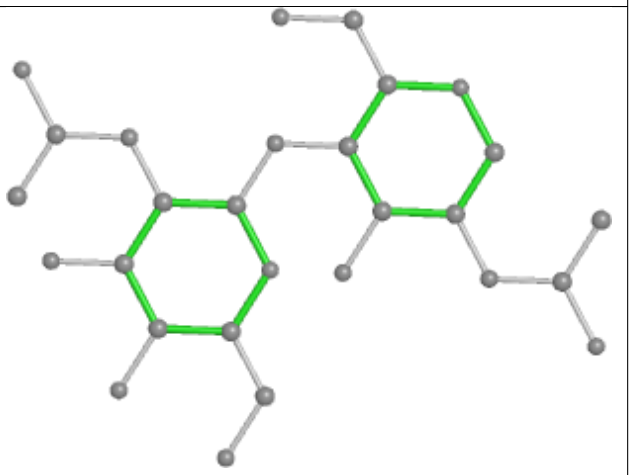
Bond lengths



Bond angles

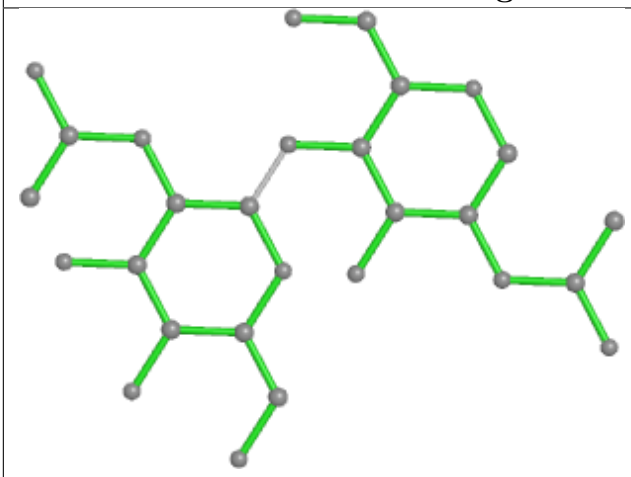


Torsions

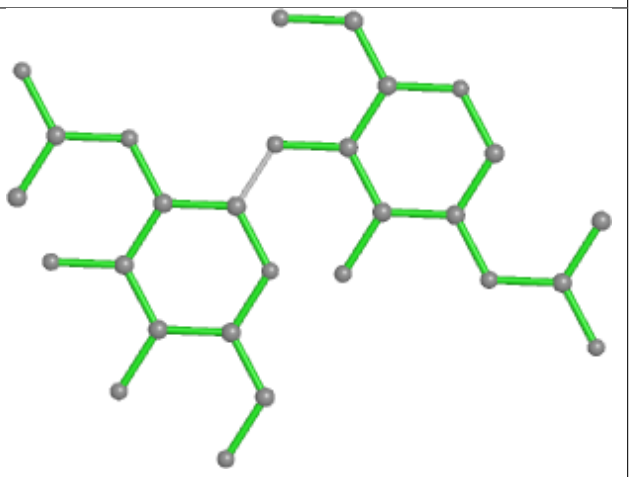


Rings

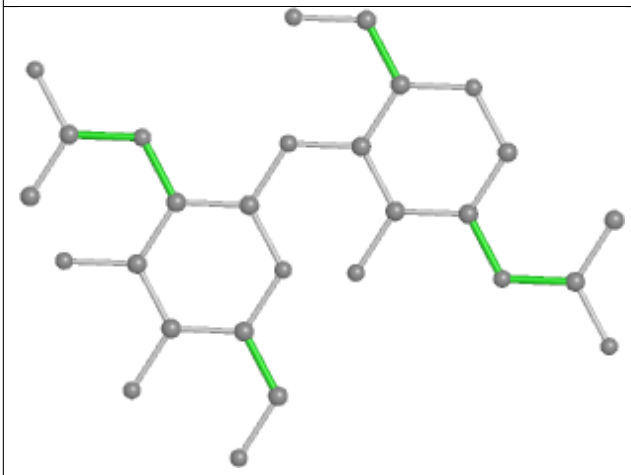
Oligosaccharide Chain E



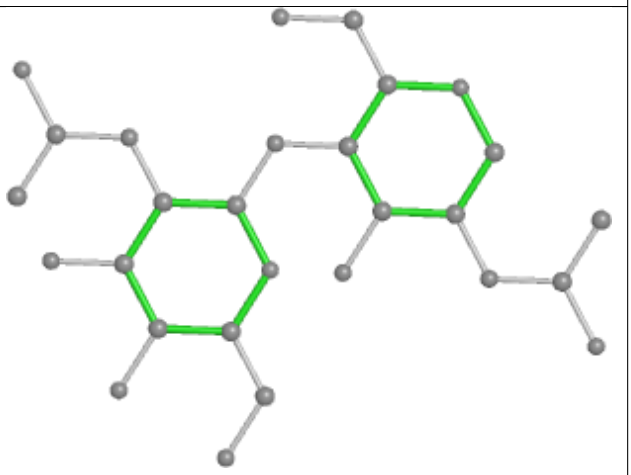
Bond lengths



Bond angles

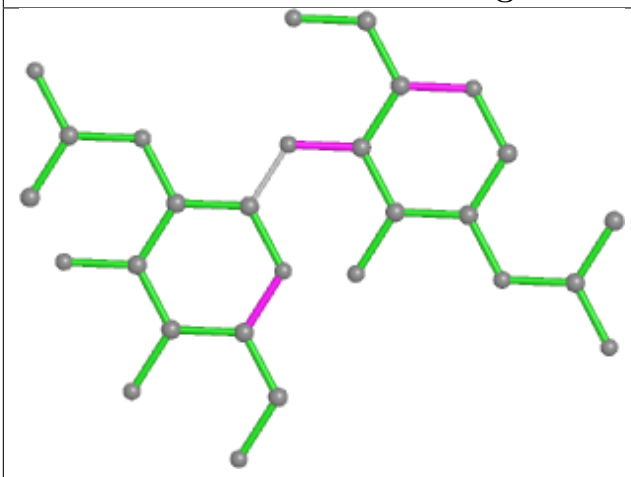


Torsions

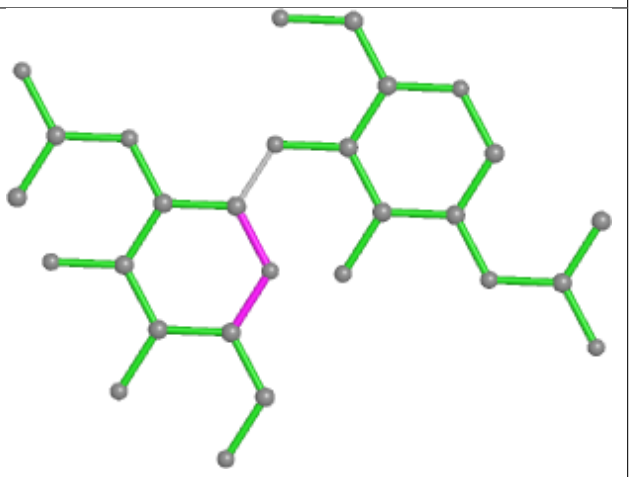


Rings

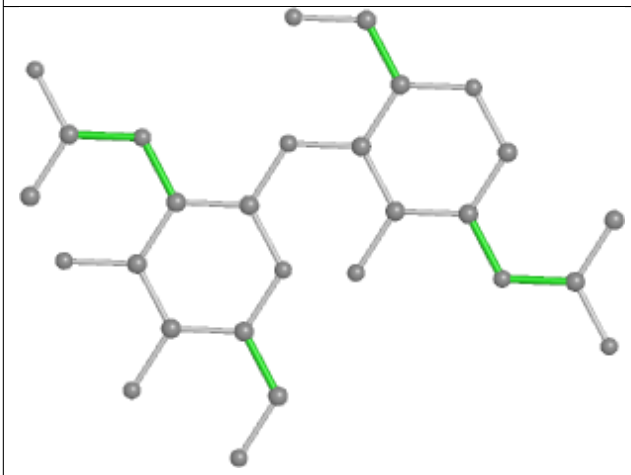
Oligosaccharide Chain F



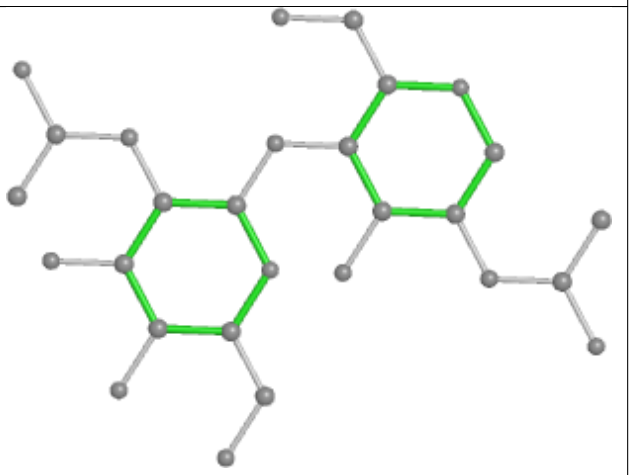
Bond lengths



Bond angles

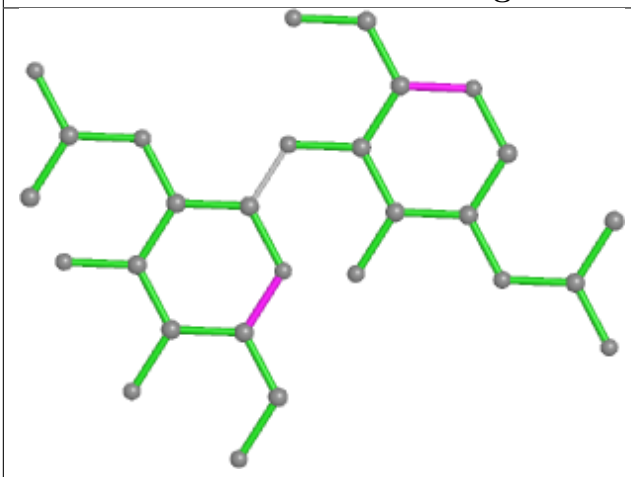


Torsions

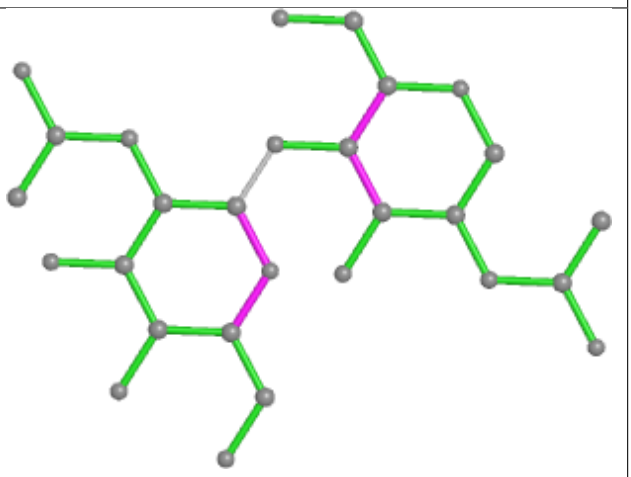


Rings

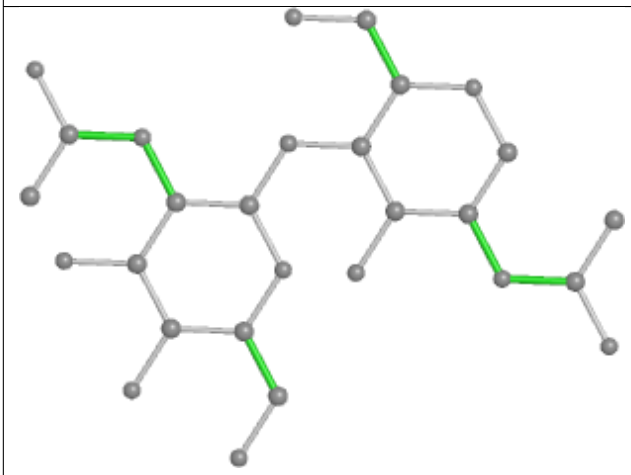
Oligosaccharide Chain G



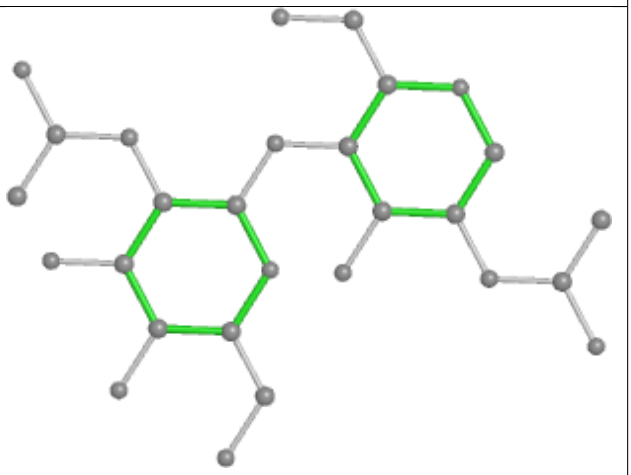
Bond lengths



Bond angles

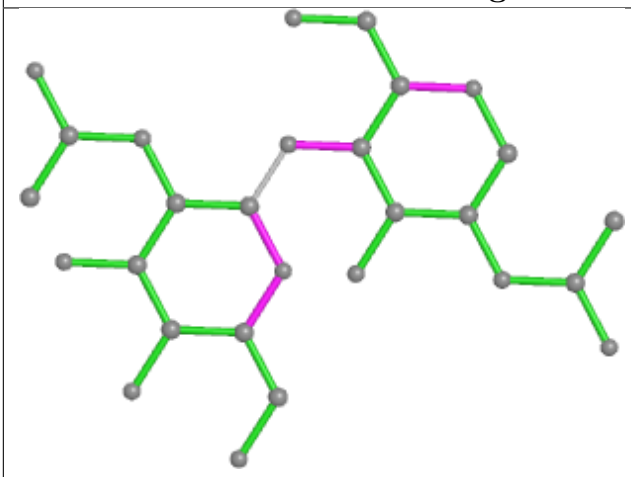


Torsions

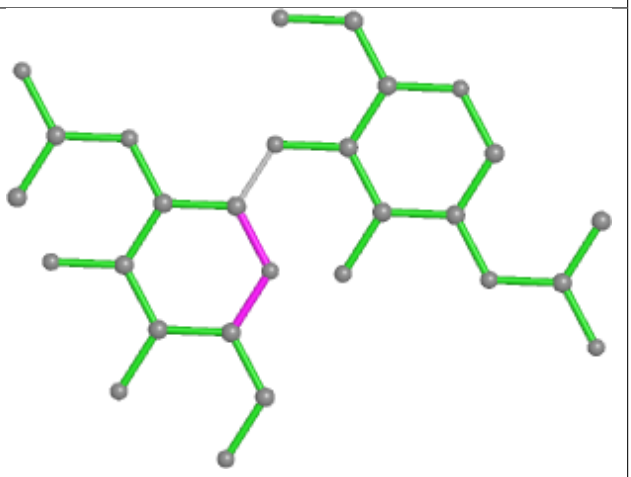


Rings

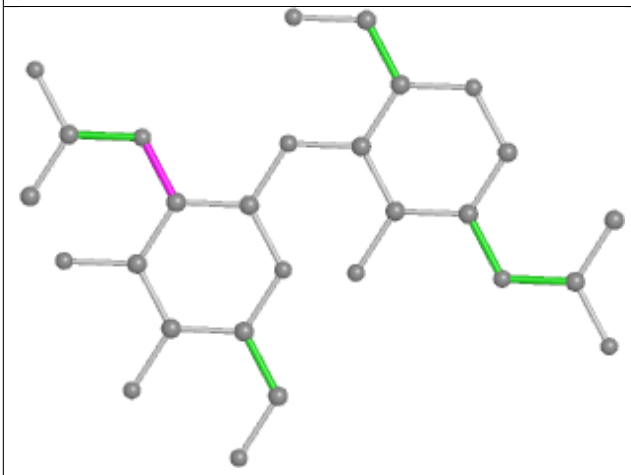
Oligosaccharide Chain W



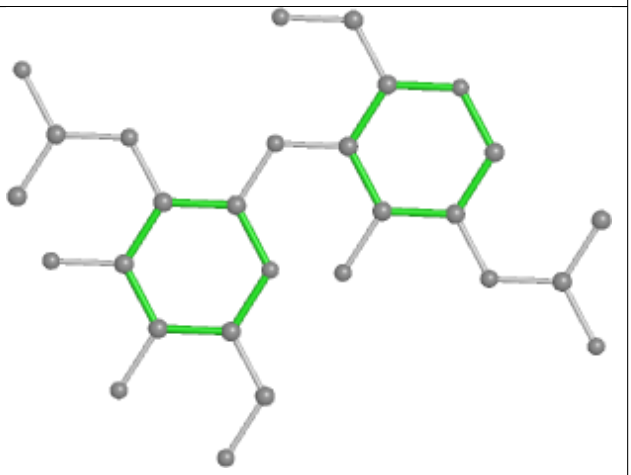
Bond lengths



Bond angles

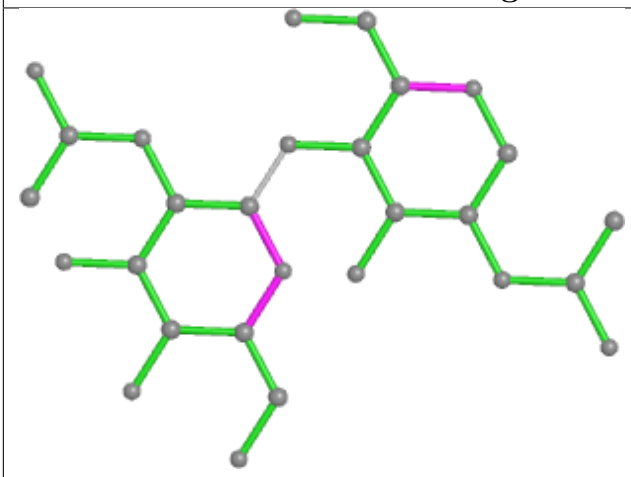


Torsions

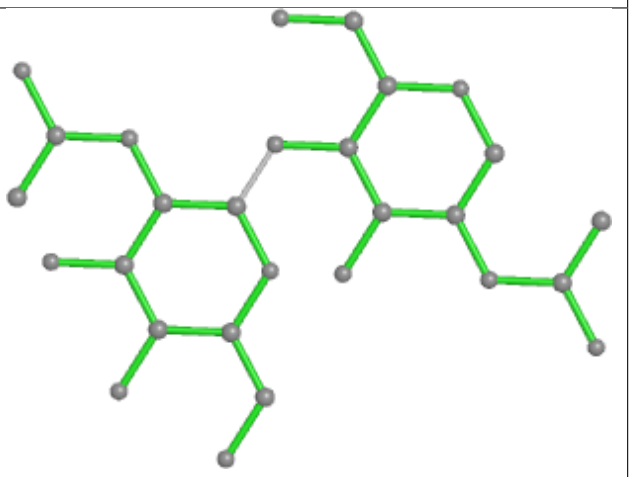


Rings

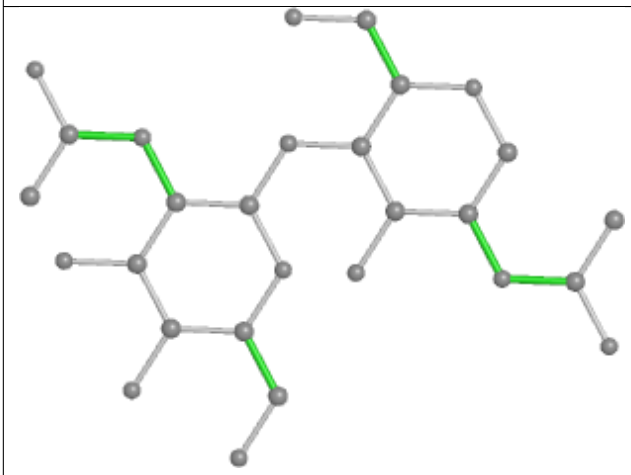
Oligosaccharide Chain I



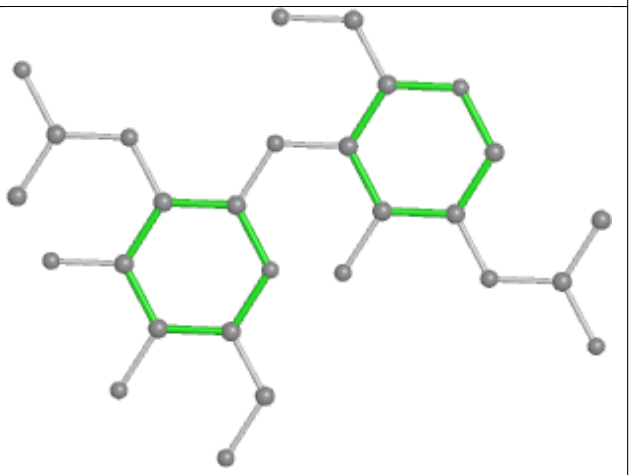
Bond lengths



Bond angles

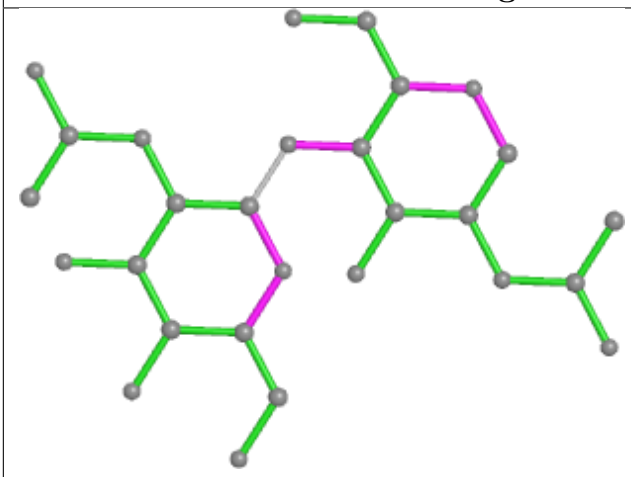


Torsions

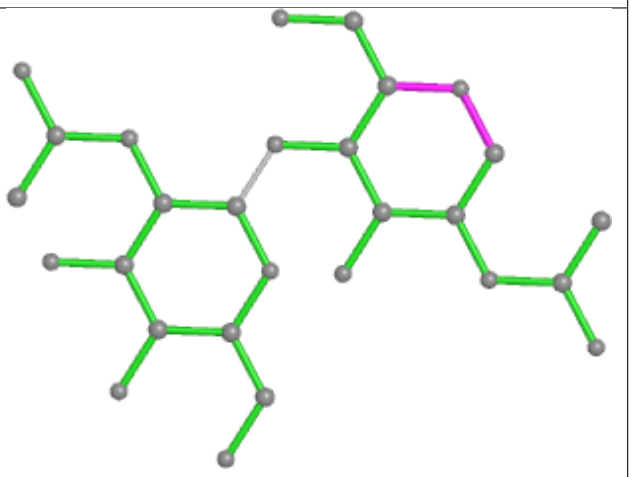


Rings

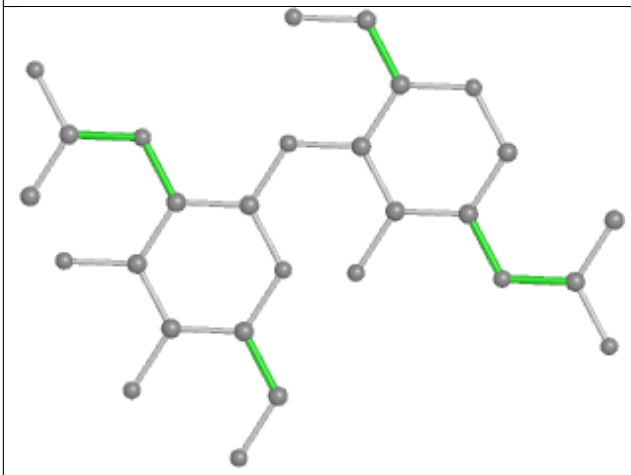
Oligosaccharide Chain J



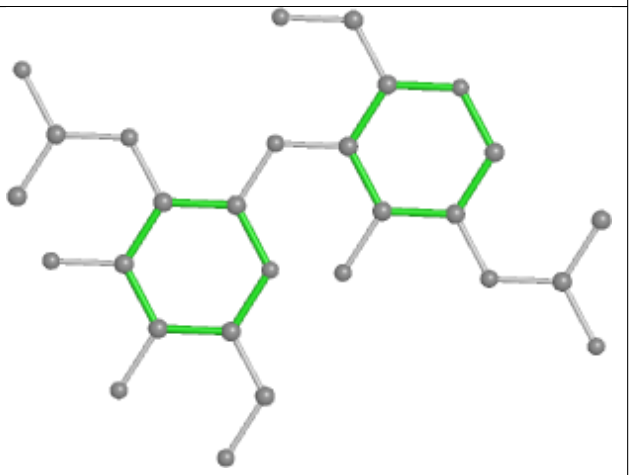
Bond lengths



Bond angles

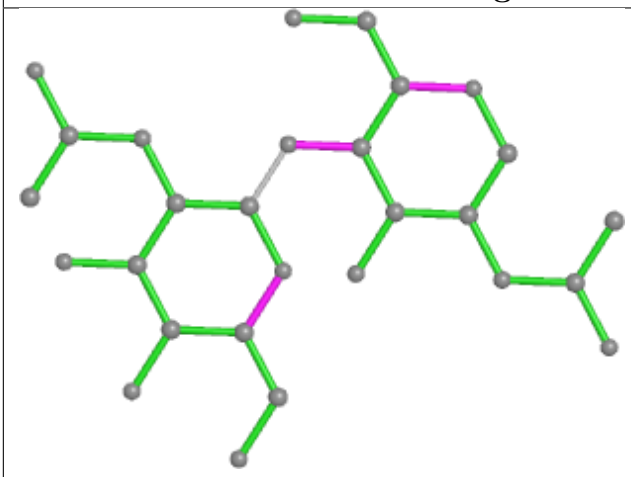


Torsions

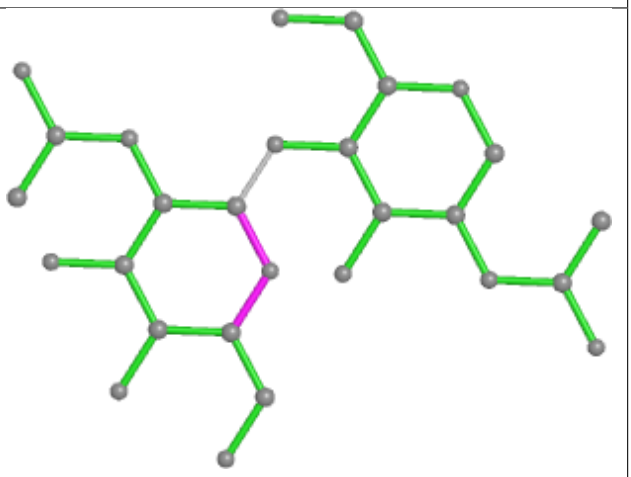


Rings

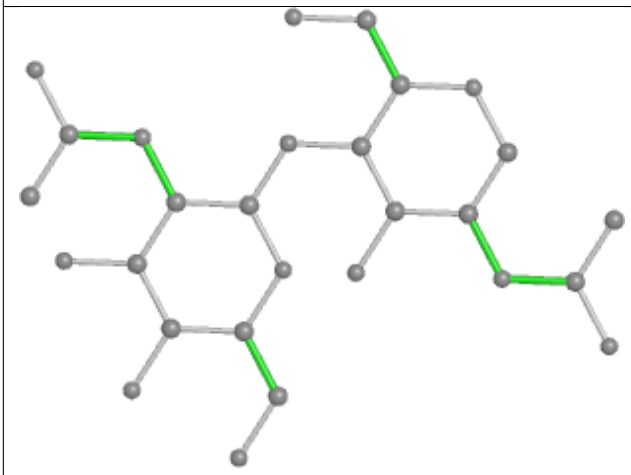
Oligosaccharide Chain K



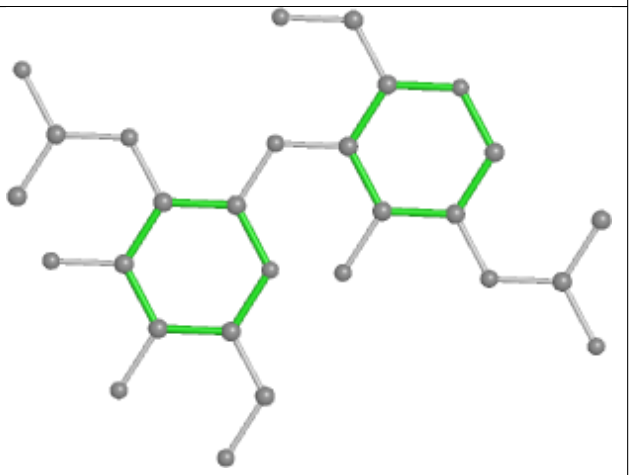
Bond lengths



Bond angles

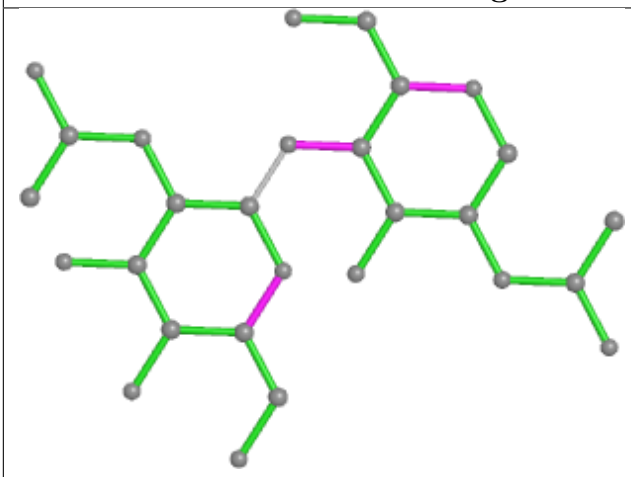


Torsions

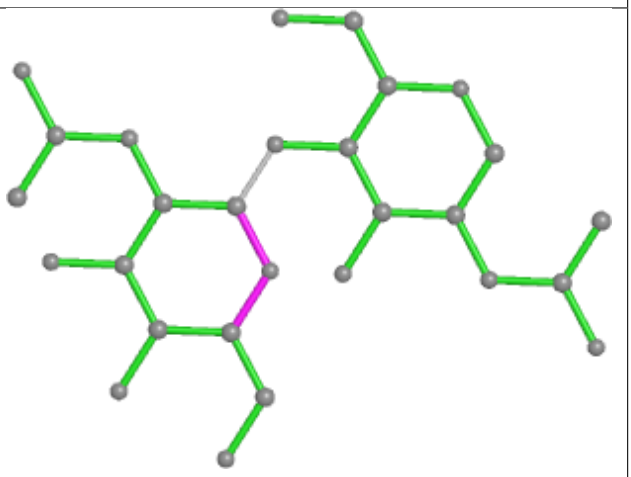


Rings

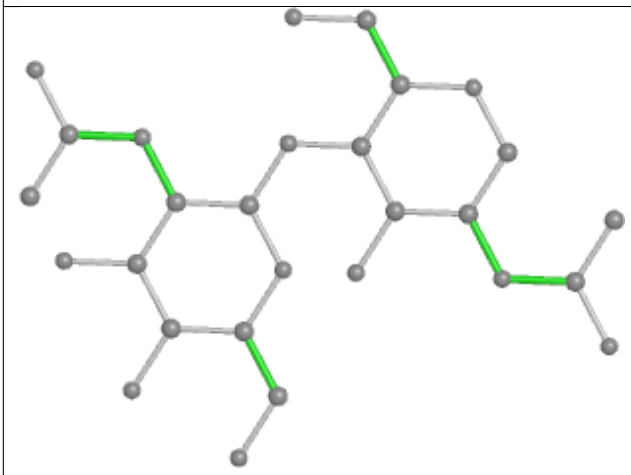
Oligosaccharide Chain M



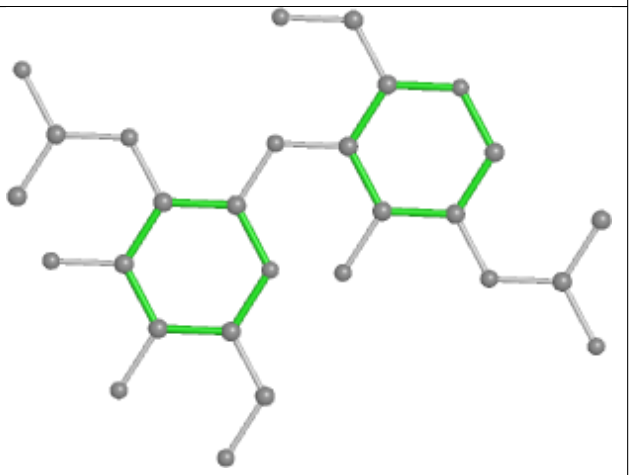
Bond lengths



Bond angles

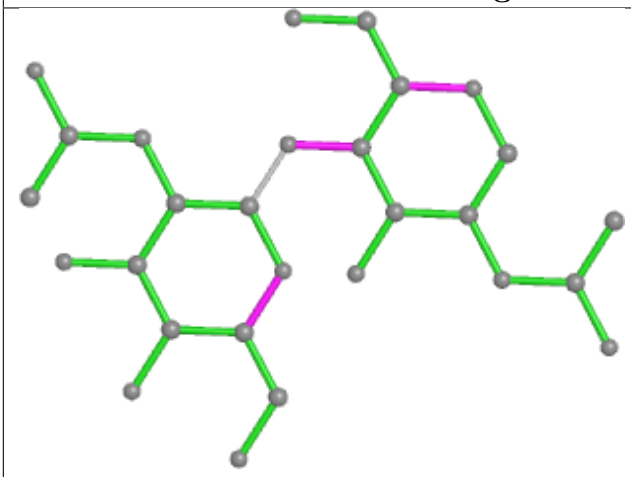


Torsions

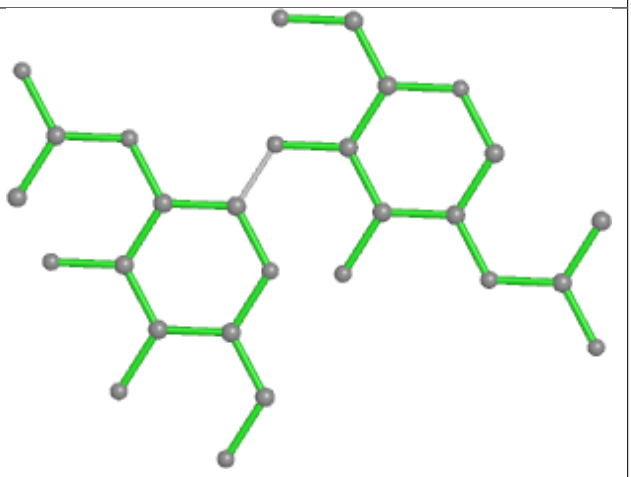


Rings

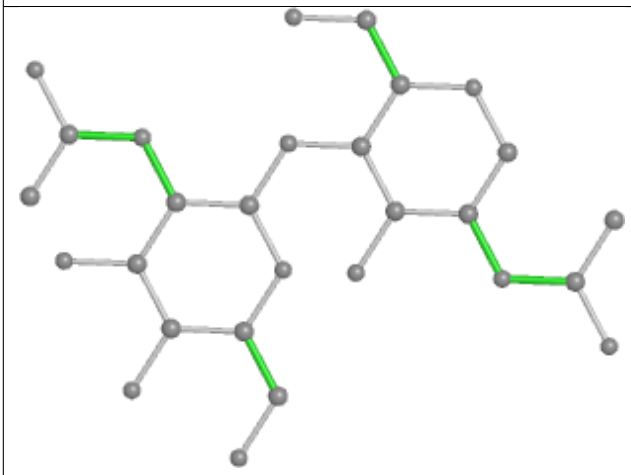
Oligosaccharide Chain N



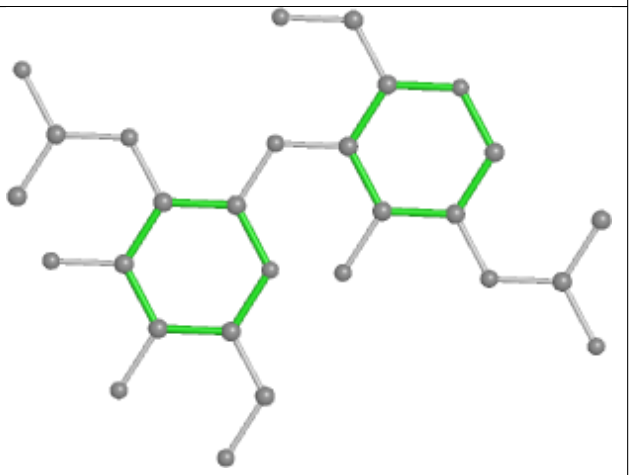
Bond lengths



Bond angles

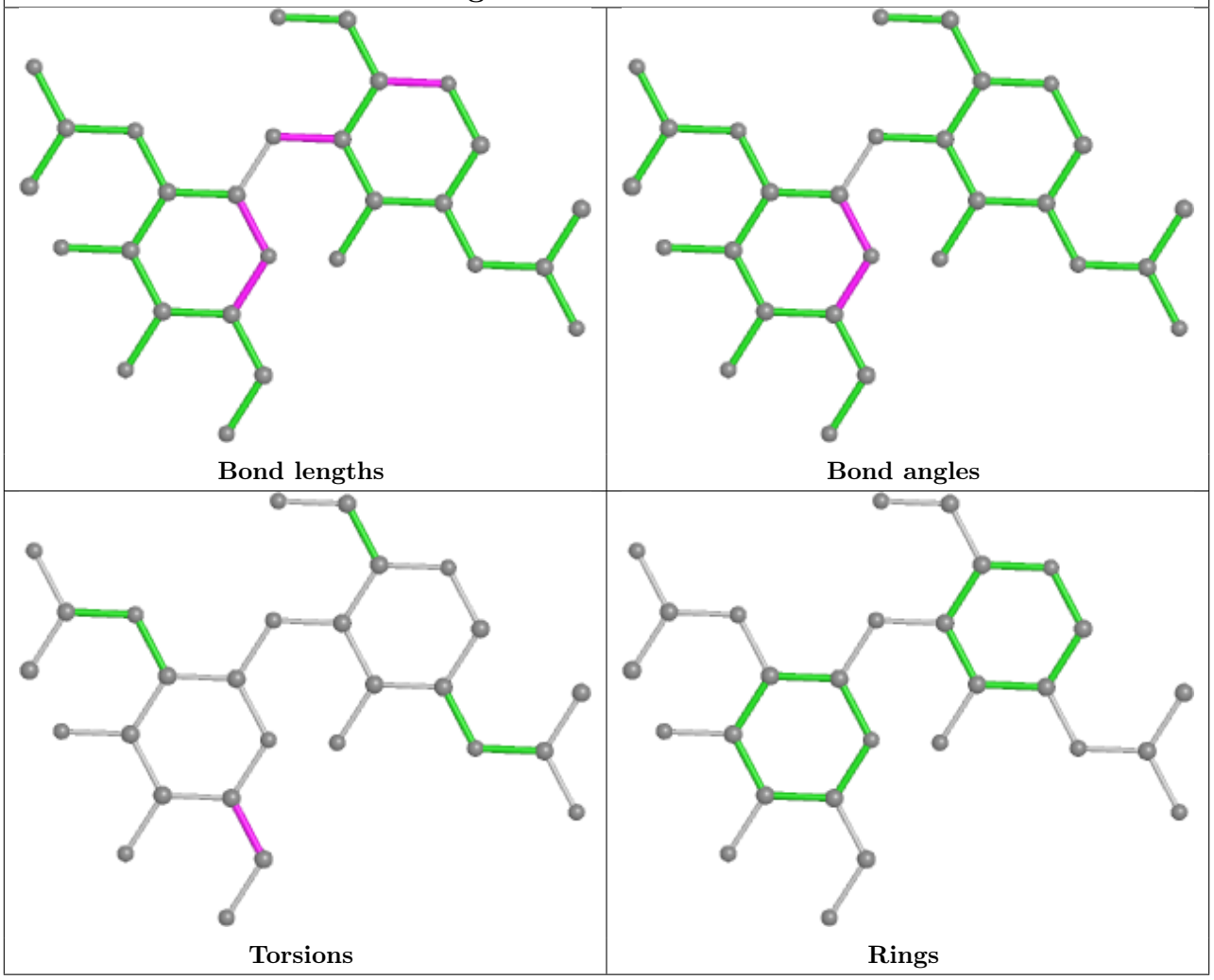


Torsions



Rings

Oligosaccharide Chain O



5.6 Ligand geometry (i)

33 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
6	NAG	V	1210	1	14,14,15	1.29	2 (14%)	17,19,21	0.63	0
6	NAG	S	1203	1	14,14,15	1.20	1 (7%)	17,19,21	0.68	0
6	NAG	C	1202	1	14,14,15	1.29	2 (14%)	17,19,21	0.60	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
6	NAG	S	1208	1	14,14,15	0.27	0	17,19,21	0.73	0
6	NAG	V	1212	1	14,14,15	0.33	0	17,19,21	0.90	1 (5%)
6	NAG	C	1201	1	14,14,15	1.42	2 (14%)	17,19,21	0.70	0
6	NAG	V	1206	1	14,14,15	1.24	2 (14%)	17,19,21	0.79	1 (5%)
6	NAG	C	1209	1	14,14,15	1.21	1 (7%)	17,19,21	1.01	1 (5%)
6	NAG	S	1204	1	14,14,15	1.29	3 (21%)	17,19,21	0.84	1 (5%)
6	NAG	S	1210	1	14,14,15	0.51	0	17,19,21	2.33	6 (35%)
6	NAG	C	1211	1	14,14,15	0.30	0	17,19,21	0.72	0
6	NAG	C	1206	1	14,14,15	1.29	3 (21%)	17,19,21	0.97	1 (5%)
6	NAG	C	1207	1	14,14,15	1.25	2 (14%)	17,19,21	0.75	0
6	NAG	V	1202	1	14,14,15	1.24	2 (14%)	17,19,21	0.74	1 (5%)
6	NAG	V	1203	1	14,14,15	1.23	1 (7%)	17,19,21	0.83	1 (5%)
6	NAG	C	1203	1	14,14,15	1.34	2 (14%)	17,19,21	0.76	1 (5%)
6	NAG	V	1201	1	14,14,15	1.27	3 (21%)	17,19,21	1.08	1 (5%)
6	NAG	C	1204	1	14,14,15	1.25	1 (7%)	17,19,21	0.82	1 (5%)
6	NAG	S	1205	1	14,14,15	1.18	1 (7%)	17,19,21	0.74	0
6	NAG	V	1211	1	14,14,15	0.32	0	17,19,21	0.67	0
6	NAG	S	1201	1	14,14,15	1.23	1 (7%)	17,19,21	0.87	1 (5%)
6	NAG	C	1208	1	14,14,15	1.18	2 (14%)	17,19,21	1.04	1 (5%)
6	NAG	V	1208	1	14,14,15	1.20	1 (7%)	17,19,21	0.76	1 (5%)
6	NAG	S	1207	1	14,14,15	0.30	0	17,19,21	0.96	0
6	NAG	S	1206	1	14,14,15	1.24	2 (14%)	17,19,21	1.07	1 (5%)
6	NAG	V	1207	1	14,14,15	1.29	3 (21%)	17,19,21	0.82	1 (5%)
6	NAG	V	1209	1	14,14,15	1.21	1 (7%)	17,19,21	0.82	1 (5%)
6	NAG	C	1205	1	14,14,15	1.36	3 (21%)	17,19,21	0.92	1 (5%)
6	NAG	V	1204	-	14,14,15	1.20	1 (7%)	17,19,21	0.76	1 (5%)
6	NAG	S	1209	1	14,14,15	0.30	0	17,19,21	0.71	0
6	NAG	C	1210	1	14,14,15	1.31	3 (21%)	17,19,21	0.88	1 (5%)
6	NAG	S	1202	1	14,14,15	1.28	3 (21%)	17,19,21	0.92	1 (5%)
6	NAG	V	1205	1	14,14,15	1.45	3 (21%)	17,19,21	0.74	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	NAG	V	1210	1	-	1/6/23/26	0/1/1/1
6	NAG	S	1203	1	-	1/6/23/26	0/1/1/1
6	NAG	C	1202	1	-	1/6/23/26	0/1/1/1
6	NAG	S	1208	1	-	6/6/23/26	0/1/1/1
6	NAG	V	1212	1	-	2/6/23/26	0/1/1/1
6	NAG	C	1201	1	-	1/6/23/26	0/1/1/1
6	NAG	V	1206	1	-	0/6/23/26	0/1/1/1
6	NAG	C	1209	1	-	0/6/23/26	0/1/1/1
6	NAG	S	1204	1	-	0/6/23/26	0/1/1/1
6	NAG	S	1210	1	-	2/6/23/26	0/1/1/1
6	NAG	C	1211	1	-	3/6/23/26	0/1/1/1
6	NAG	C	1206	1	-	0/6/23/26	0/1/1/1
6	NAG	C	1207	1	-	0/6/23/26	0/1/1/1
6	NAG	V	1202	1	-	1/6/23/26	0/1/1/1
6	NAG	V	1203	1	-	0/6/23/26	0/1/1/1
6	NAG	C	1203	1	-	0/6/23/26	0/1/1/1
6	NAG	V	1201	1	-	1/6/23/26	0/1/1/1
6	NAG	C	1204	1	-	0/6/23/26	0/1/1/1
6	NAG	S	1205	1	-	1/6/23/26	0/1/1/1
6	NAG	V	1211	1	-	0/6/23/26	0/1/1/1
6	NAG	S	1201	1	-	0/6/23/26	0/1/1/1
6	NAG	C	1208	1	-	2/6/23/26	0/1/1/1
6	NAG	V	1208	1	-	1/6/23/26	0/1/1/1
6	NAG	S	1207	1	-	2/6/23/26	0/1/1/1
6	NAG	S	1206	1	-	1/6/23/26	0/1/1/1
6	NAG	V	1207	1	-	0/6/23/26	0/1/1/1
6	NAG	V	1209	1	-	0/6/23/26	0/1/1/1
6	NAG	C	1205	1	-	0/6/23/26	0/1/1/1
6	NAG	V	1204	-	-	0/6/23/26	0/1/1/1
6	NAG	S	1209	1	-	2/6/23/26	0/1/1/1
6	NAG	C	1210	1	-	1/6/23/26	0/1/1/1
6	NAG	S	1202	1	-	0/6/23/26	0/1/1/1
6	NAG	V	1205	1	-	0/6/23/26	0/1/1/1

All (51) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	V	1205	NAG	O5-C5	3.04	1.49	1.43
6	C	1203	NAG	O5-C5	3.01	1.49	1.43
6	C	1201	NAG	O5-C1	2.90	1.48	1.43
6	C	1201	NAG	O5-C5	2.79	1.49	1.43
6	C	1207	NAG	O5-C5	2.76	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	1205	NAG	O5-C5	2.75	1.49	1.43
6	C	1204	NAG	O5-C5	2.75	1.49	1.43
6	S	1204	NAG	O5-C5	2.73	1.49	1.43
6	S	1201	NAG	O5-C5	2.71	1.48	1.43
6	S	1202	NAG	O5-C5	2.67	1.48	1.43
6	V	1207	NAG	O5-C5	2.66	1.48	1.43
6	C	1210	NAG	O5-C5	2.65	1.48	1.43
6	V	1204	NAG	O5-C5	2.65	1.48	1.43
6	V	1203	NAG	O5-C5	2.63	1.48	1.43
6	V	1209	NAG	O5-C5	2.63	1.48	1.43
6	V	1205	NAG	O5-C1	2.59	1.47	1.43
6	C	1209	NAG	O5-C5	2.59	1.48	1.43
6	C	1206	NAG	O5-C5	2.55	1.48	1.43
6	S	1206	NAG	O5-C5	2.54	1.48	1.43
6	V	1208	NAG	O5-C5	2.52	1.48	1.43
6	C	1202	NAG	O5-C5	2.50	1.48	1.43
6	V	1210	NAG	O5-C5	2.47	1.48	1.43
6	S	1205	NAG	O5-C5	2.46	1.48	1.43
6	C	1205	NAG	C1-C2	2.39	1.55	1.52
6	V	1206	NAG	O5-C5	2.37	1.48	1.43
6	V	1206	NAG	C1-C2	2.36	1.55	1.52
6	V	1201	NAG	O5-C5	2.32	1.48	1.43
6	V	1202	NAG	O5-C5	2.32	1.48	1.43
6	S	1203	NAG	O5-C5	2.32	1.48	1.43
6	V	1205	NAG	C1-C2	2.26	1.55	1.52
6	C	1208	NAG	O5-C5	2.24	1.48	1.43
6	V	1201	NAG	C1-C2	2.23	1.55	1.52
6	C	1205	NAG	O5-C1	2.20	1.47	1.43
6	C	1206	NAG	C1-C2	2.20	1.55	1.52
6	C	1206	NAG	O5-C1	2.19	1.47	1.43
6	C	1210	NAG	C1-C2	2.14	1.55	1.52
6	V	1201	NAG	O5-C1	2.13	1.47	1.43
6	S	1206	NAG	O5-C1	2.11	1.47	1.43
6	C	1210	NAG	O5-C1	2.11	1.47	1.43
6	S	1204	NAG	O5-C1	2.10	1.47	1.43
6	C	1203	NAG	O5-C1	2.09	1.47	1.43
6	V	1207	NAG	C1-C2	2.06	1.55	1.52
6	V	1207	NAG	O5-C1	2.05	1.47	1.43
6	V	1202	NAG	O5-C1	2.03	1.47	1.43
6	S	1202	NAG	O5-C1	2.02	1.46	1.43
6	C	1207	NAG	O5-C1	2.02	1.46	1.43
6	S	1204	NAG	C1-C2	2.02	1.55	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	1202	NAG	O5-C1	2.01	1.46	1.43
6	V	1210	NAG	O5-C1	2.00	1.46	1.43
6	C	1208	NAG	C1-C2	2.00	1.55	1.52
6	S	1202	NAG	C1-C2	2.00	1.55	1.52

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	S	1210	NAG	C2-N2-C7	-4.38	116.67	122.90
6	S	1210	NAG	C1-C2-N2	4.33	117.88	110.49
6	S	1210	NAG	O5-C1-C2	-4.15	104.73	111.29
6	S	1210	NAG	C4-C3-C2	-3.94	105.25	111.02
6	V	1201	NAG	C1-O5-C5	3.87	117.43	112.19
6	S	1206	NAG	C1-O5-C5	3.77	117.30	112.19
6	C	1208	NAG	C1-O5-C5	3.72	117.23	112.19
6	S	1210	NAG	C6-C5-C4	-3.51	104.79	113.00
6	C	1209	NAG	C1-O5-C5	3.44	116.85	112.19
6	C	1206	NAG	C1-O5-C5	3.29	116.65	112.19
6	S	1202	NAG	C1-O5-C5	2.73	115.89	112.19
6	S	1201	NAG	C1-O5-C5	2.70	115.85	112.19
6	V	1202	NAG	C1-O5-C5	2.58	115.69	112.19
6	S	1204	NAG	C1-O5-C5	2.50	115.57	112.19
6	V	1209	NAG	C1-O5-C5	2.45	115.52	112.19
6	V	1207	NAG	C1-O5-C5	2.43	115.48	112.19
6	V	1208	NAG	C1-O5-C5	2.37	115.40	112.19
6	C	1205	NAG	C1-O5-C5	2.37	115.40	112.19
6	C	1204	NAG	C1-O5-C5	2.34	115.36	112.19
6	S	1210	NAG	C1-O5-C5	2.32	115.33	112.19
6	V	1212	NAG	C2-N2-C7	-2.29	119.65	122.90
6	V	1206	NAG	C1-O5-C5	2.23	115.22	112.19
6	V	1203	NAG	C1-O5-C5	2.22	115.19	112.19
6	C	1203	NAG	C1-O5-C5	2.09	115.02	112.19
6	C	1210	NAG	C1-O5-C5	2.03	114.94	112.19
6	V	1204	NAG	C1-O5-C5	2.03	114.94	112.19

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	S	1208	NAG	C1-C2-N2-C7
6	S	1208	NAG	C8-C7-N2-C2
6	S	1208	NAG	O7-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
6	V	1212	NAG	C8-C7-N2-C2
6	V	1212	NAG	O7-C7-N2-C2
6	S	1210	NAG	C8-C7-N2-C2
6	S	1210	NAG	O7-C7-N2-C2
6	C	1211	NAG	C8-C7-N2-C2
6	C	1211	NAG	O7-C7-N2-C2
6	S	1207	NAG	O5-C5-C6-O6
6	C	1210	NAG	O5-C5-C6-O6
6	S	1205	NAG	O5-C5-C6-O6
6	S	1206	NAG	O5-C5-C6-O6
6	C	1211	NAG	O5-C5-C6-O6
6	V	1202	NAG	O5-C5-C6-O6
6	V	1210	NAG	O5-C5-C6-O6
6	V	1208	NAG	O5-C5-C6-O6
6	V	1201	NAG	O5-C5-C6-O6
6	C	1202	NAG	O5-C5-C6-O6
6	S	1203	NAG	O5-C5-C6-O6
6	C	1201	NAG	O5-C5-C6-O6
6	S	1208	NAG	C4-C5-C6-O6
6	S	1208	NAG	O5-C5-C6-O6
6	S	1209	NAG	C8-C7-N2-C2
6	S	1208	NAG	C3-C2-N2-C7
6	S	1209	NAG	O7-C7-N2-C2
6	C	1208	NAG	O5-C5-C6-O6
6	C	1208	NAG	C4-C5-C6-O6
6	S	1207	NAG	C4-C5-C6-O6

There are no ring outliers.

4 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	S	1208	NAG	2	0
6	S	1210	NAG	1	0
6	S	1207	NAG	1	0
6	V	1204	NAG	4	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

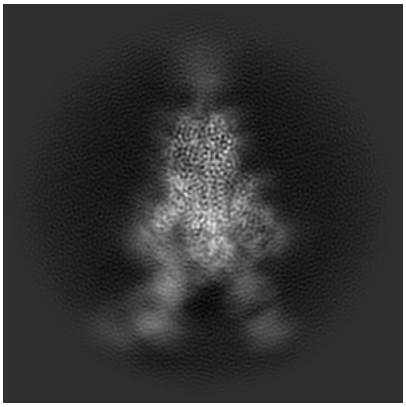
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-25904. These allow visual inspection of the internal detail of the map and identification of artifacts.

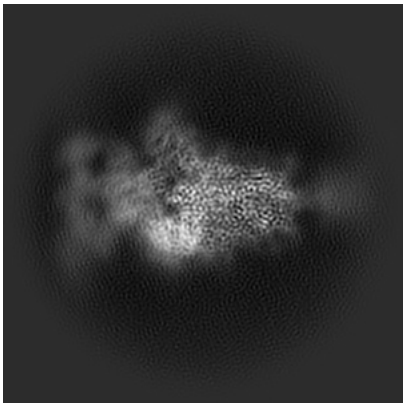
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

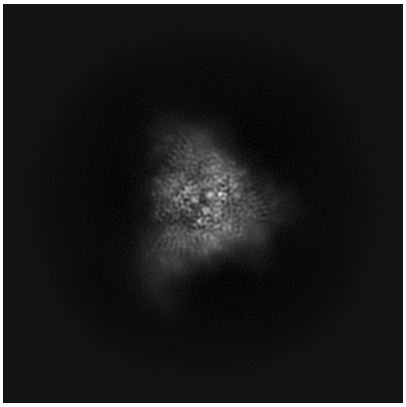
6.1.1 Primary map



X



Y

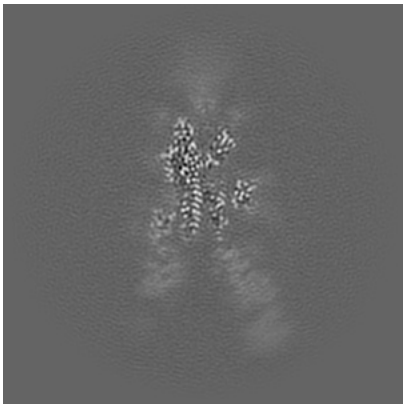


Z

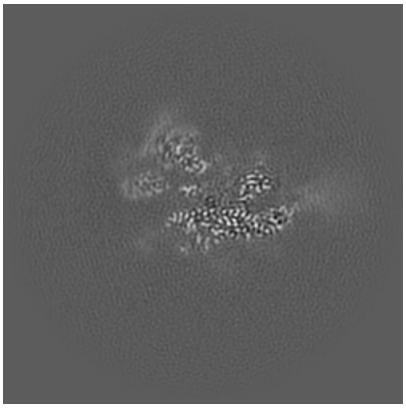
The images above show the map projected in three orthogonal directions.

6.2 Central slices

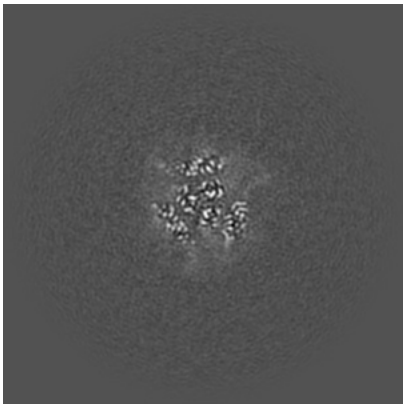
6.2.1 Primary map



X Index: 160



Y Index: 160

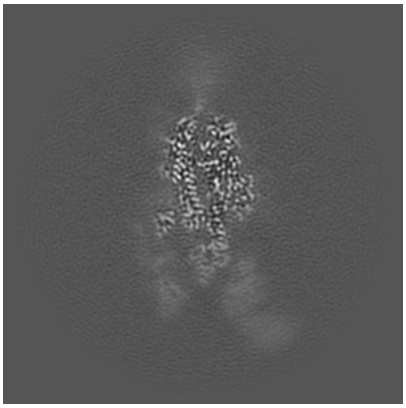


Z Index: 160

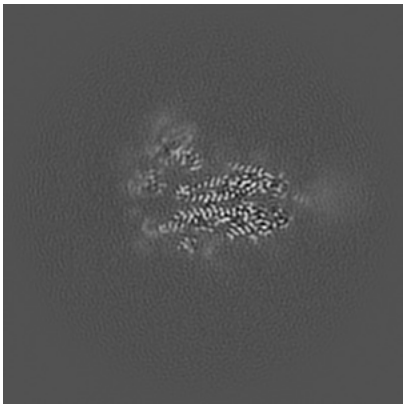
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

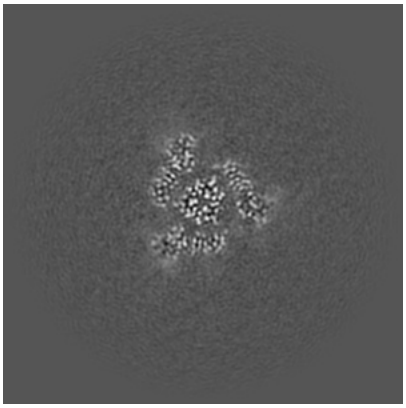
6.3.1 Primary map



X Index: 170



Y Index: 164

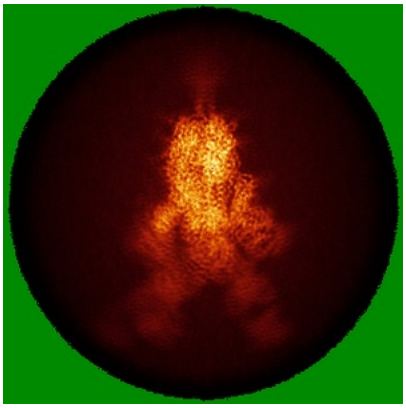


Z Index: 147

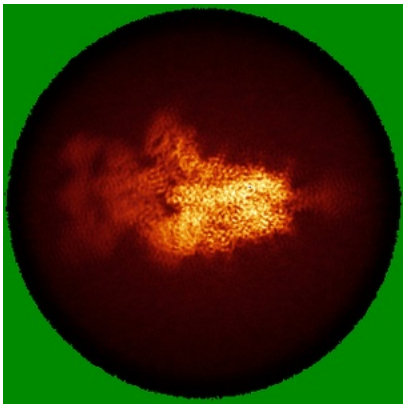
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

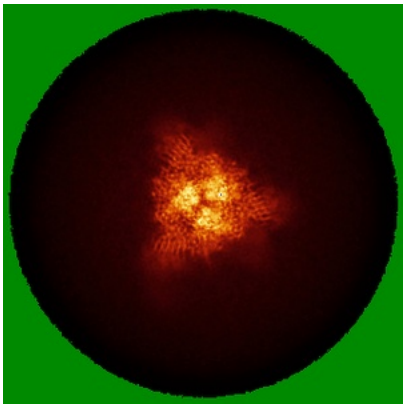
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.1321. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

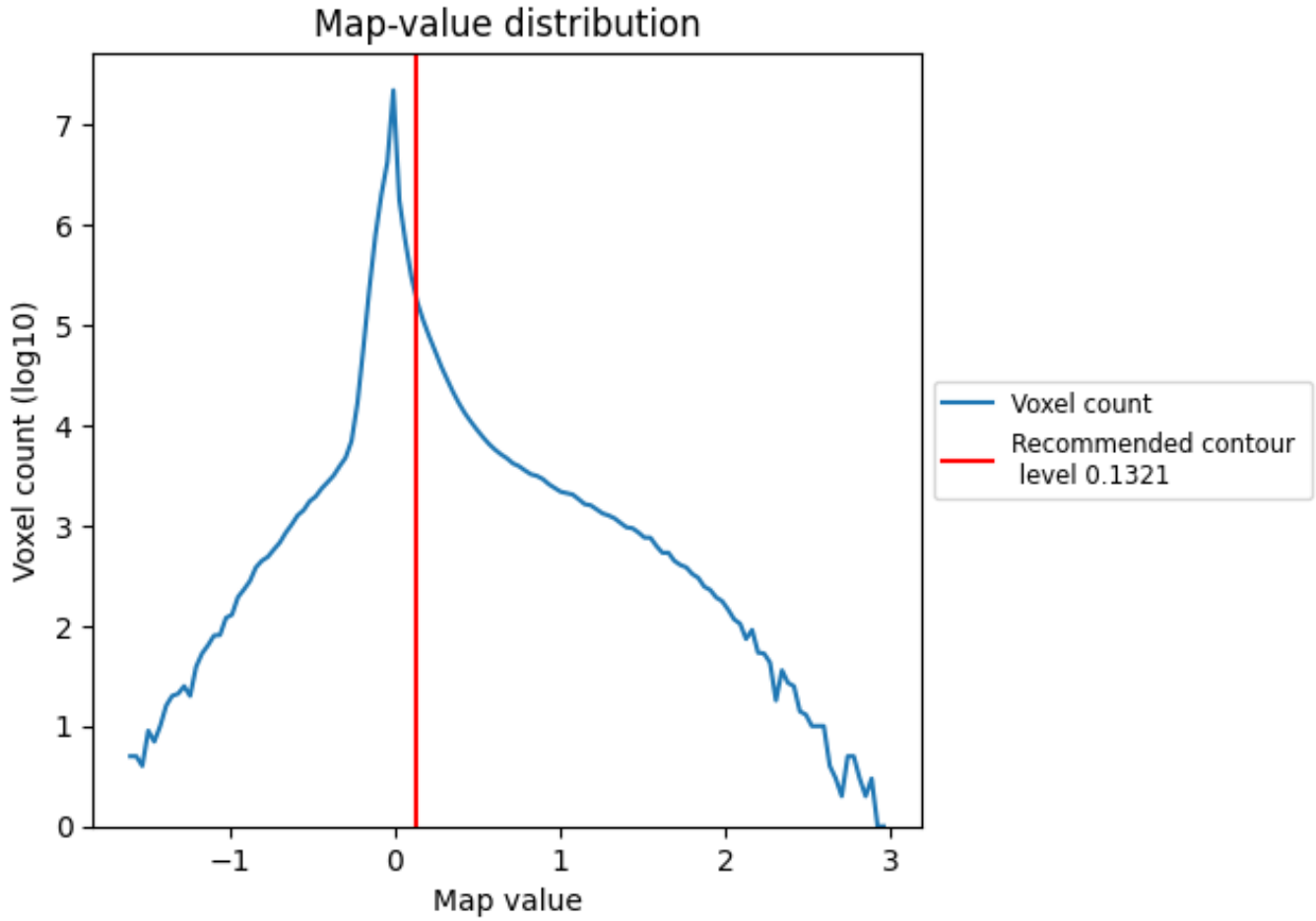
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

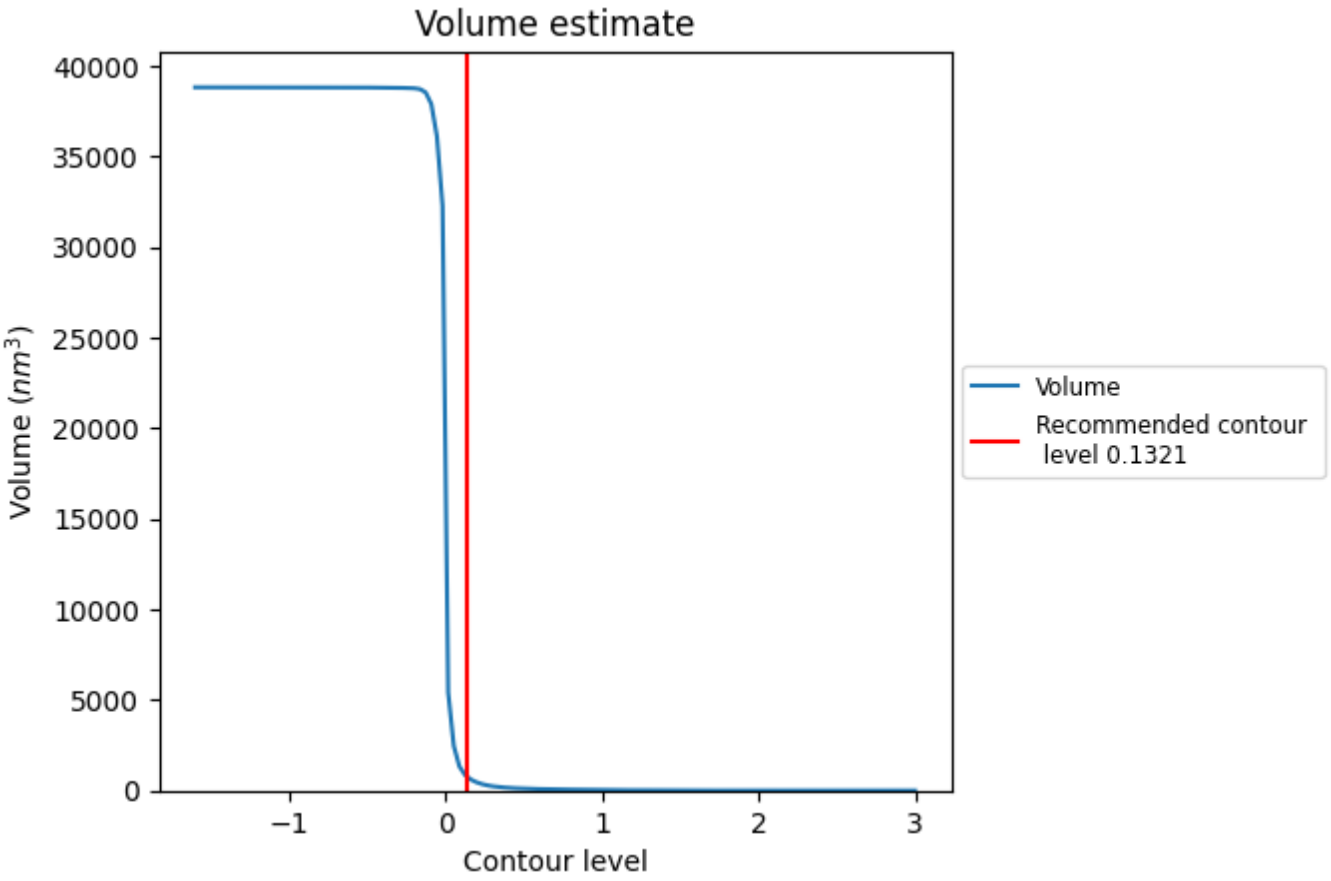
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

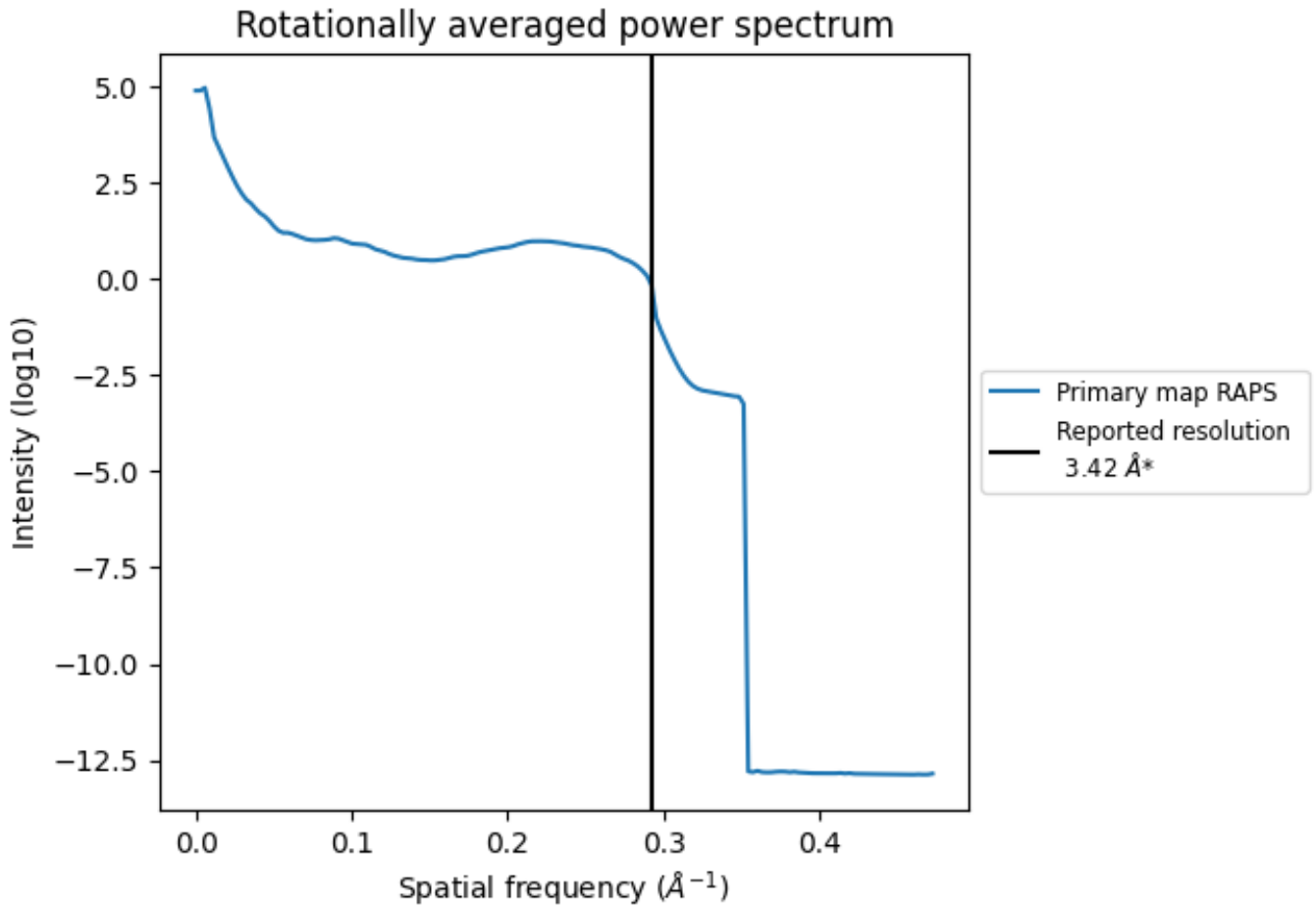
7.2 Volume estimate



The volume at the recommended contour level is 793 nm^3; this corresponds to an approximate mass of 717 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.292 $Å^{-1}$

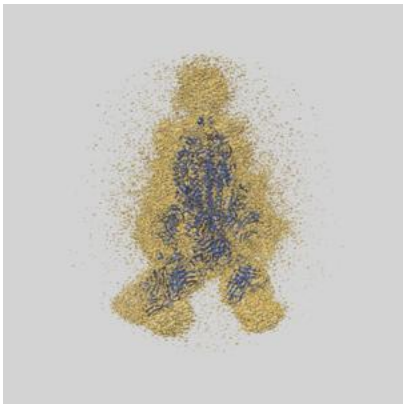
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

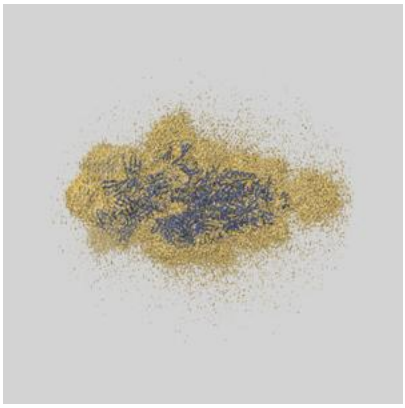
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-25904 and PDB model 7THT. Per-residue inclusion information can be found in section 3 on page 9.

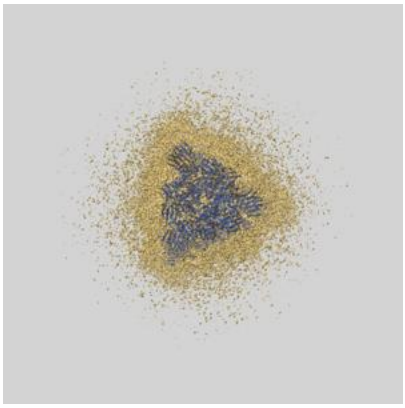
9.1 Map-model overlay



X



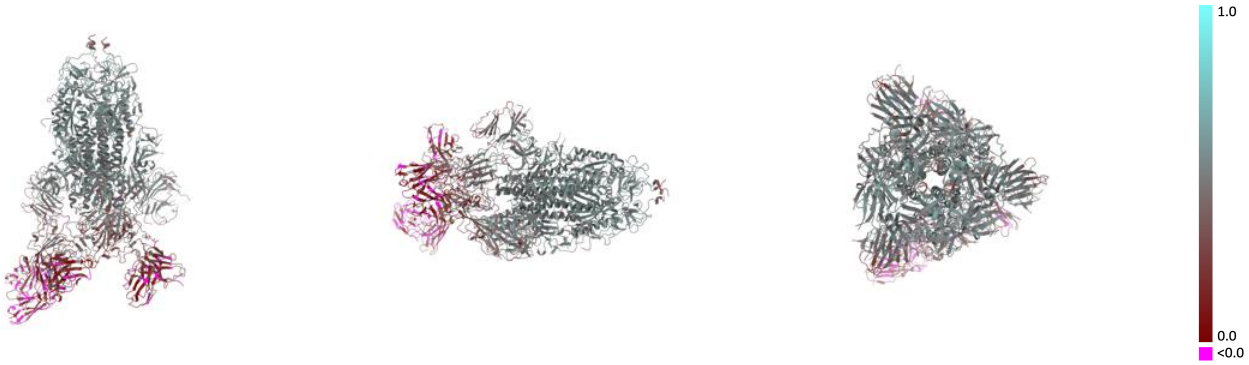
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.1321 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

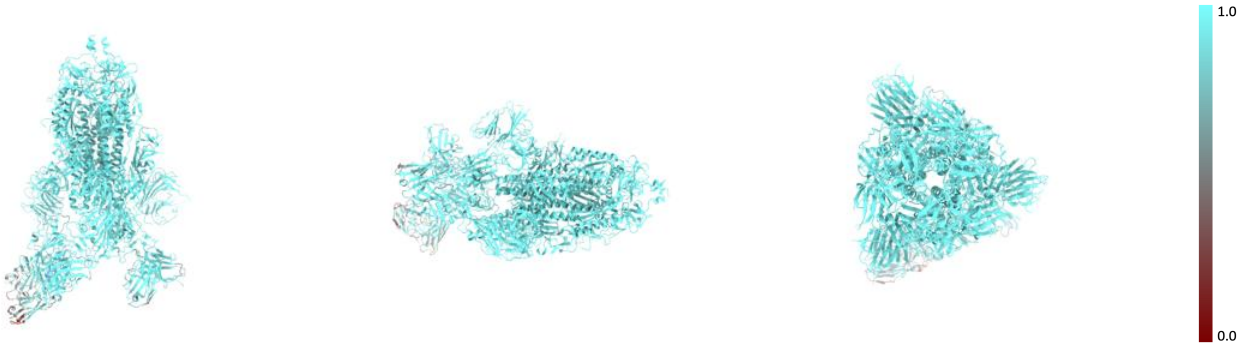
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

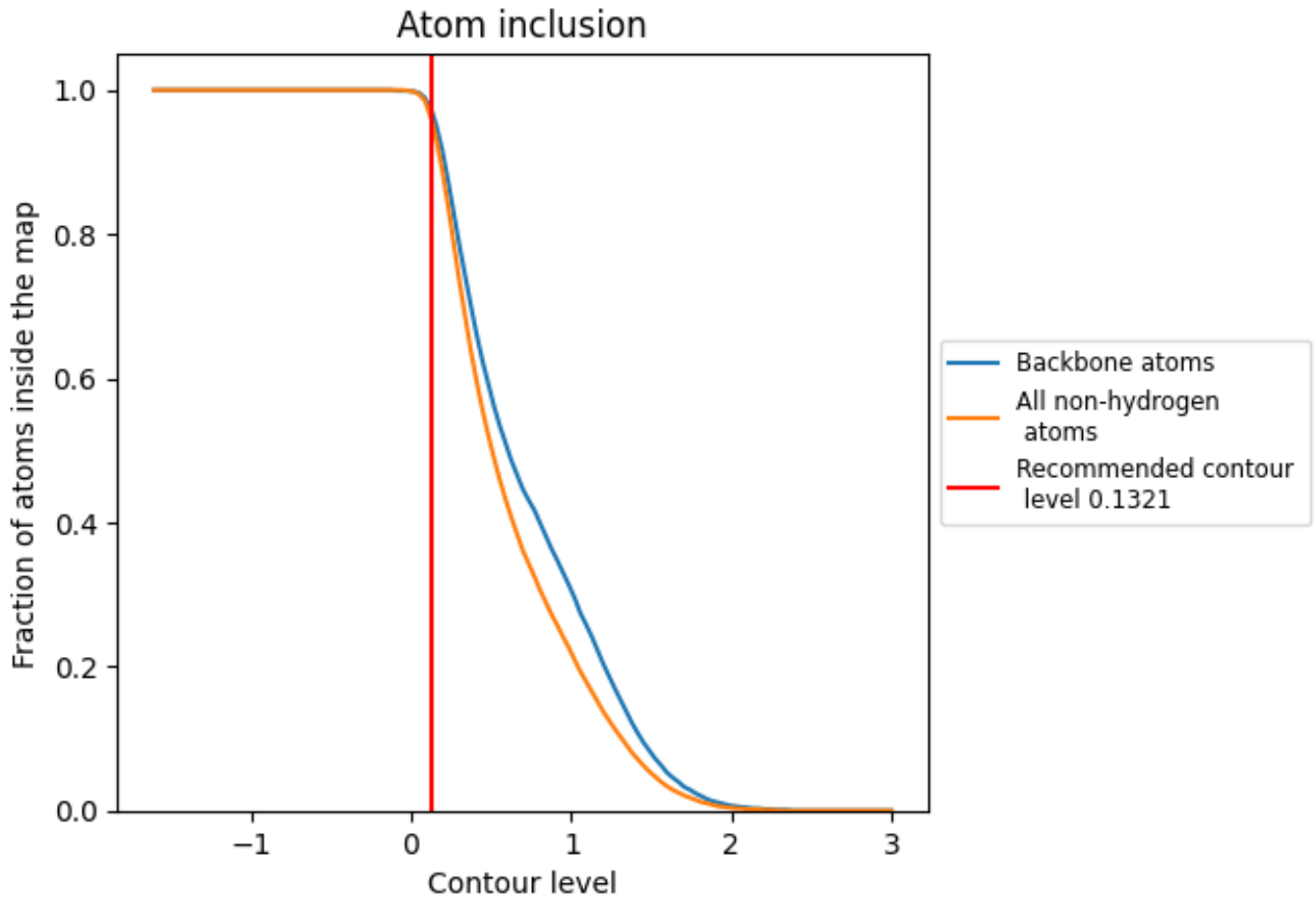
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1321).

9.4 Atom inclusion (i)



At the recommended contour level, 97% of all backbone atoms, 96% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.1321) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9560	0.4070
A	1.0000	0.5340
B	0.9640	0.4470
C	0.9830	0.4680
D	1.0000	0.4380
E	1.0000	0.3880
F	1.0000	0.4390
G	1.0000	0.4310
H	0.9330	0.1470
I	1.0000	0.4310
J	1.0000	0.4590
K	1.0000	0.4040
L	0.8890	0.1380
M	1.0000	0.4230
N	1.0000	0.4790
O	1.0000	0.4380
S	0.9860	0.4820
V	0.9770	0.4510
W	1.0000	0.4330
a	0.9320	0.2060
b	0.6360	0.0440
c	0.9100	0.2030
d	0.7080	0.0990